AS-5034
GSL
FOR CONSULTATION ONLY
6/10 3

CATALOGUE

OF THE

VEGETABLE PRODUCTIONS

OF THE

PRESIDENCY OF BOMBAY;

INCLUDING A LIST OF THE DRUGS SOLD IN THE BAZARS OF WESTERN INDIA.

COMPILED BY

G. C. M. BIRDWOOD, M.D.

OLIM PRÆS. ANN. SOC. MED. REG. EDIN.

SECRETARY AND CURATOR, GOVERNMENT CENTRAL MUSEUM;
AND HONORARY SECRETARY TO THE AGRICULTURAL AND
HORTICULTURAL SOCIETY OF WESTERN INDIA
AND THE B.B.R.A.S.

Second Edition.

Multum adhuc restat operis, multumque restabit.

WITH INDEX.

Bombay:
PRINTED AT THE EDUCATION SOCIETY'S PRESS, BYCULLA.
1865.

MINISTRY OF CULTURE · GOVERNMENT OF INDIA
AS-005034
4)
CSL

TO

W. E. FRERE, ESQ. M.R.A.S. F.R.G.S.

TEN YEARS PRESIDENT OF THE BOMBAY BRANCH OF THE
ROYAL ASIATIC SOCIETY,

THIS EDITION

IS INSCRIBED BY

THE COMPILER.

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CSL

PREFACE TO THE SECOND EDITION.

This is a second edition of my Catalogue only in the sense of a republication, and not of revision or correction, of the first edition. The first edition was sold off within a few months, and ever since its going out of print there has been a steady demand for another, and with an Index. This Index is now added. It has been made in the Office of the Education Society's Press, but I have overlooked it myself, and believe that it will answer its purpose, although I do not consider it any part of my work. I have added very little else to the volume, so that it is at least three years behind the times. The reasons of this are, that I have been otherwise closely engaged during the last three years, and that it is impossible to complete a work of this kind satisfactorily in Bombay, or, I suppose, anywhere out of London. And, indeed, I am so dissatisfied with publishing a second edition of a work without substantial addition, revision, or correction, that when it was all struck off I had determined to destroy it. But upon consulting an experienced friend, upon whose judgment and impartiality I could confidently rely, he told me that I "would simply be doing an act of folly to destroy it," and so I have let it appear. But I pray to live to make a third edition to my satisfaction. The price put upon this book is enormous, but it has been fixed in the usual way, and if people will have an Index they must pay for it. I still like the first edition best, as it really represents the years of labour spent upon it, and was the best I could do in the time. This edition is in every way unsatisfactory to myself.

G. B.

October 30th MDCCCLXV.

CSL

No. 1870 of 1865.

To George Birdwood, Esq., M.D.,
Curator, Government Central Museum, Bombay.

Poona, 15th June 1865.

Sir,—In reply to your letter of the 22nd October last, I have the honour to forward the accompanying papers, received from the Collectors of the Northern Division, supplying the information required by you regarding the area under cultivation of the principal agricultural crops.

2. I shall be obliged by your returning the papers when done with.

I have the honour to be,
Sir,
Your most obedient servant,

A. ROGERS,
Revenue Commissioner, N.D.

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I—*STATEMENT showing the Extent of Land under Cultivation in the TANNA COLLECTORATE.*

YEAR.	Jowaree.	Bajree.	Wheat.	Rice.	Gram.	Natchnee.	Sawa.	Ralé.
1	2	3	4	5	6	7	8	9
	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.
1859-60	....	....	63 16 4	352,621 18 0	6,917 38 8	80,130 13 4	320 0 0	....
1860-61	....	....	59 0 0	366,130 12 0	6,412 32 4	101,759 3 4	300 0 0	....
1861-62	....	....	59 0 0	394,277 22 12	7,458 0 8	146,858 32 4	168 0 0	....
1862-63	....	....	74 0 0	404,554 25 8	8,208 3 8	124,970 2 0	215 0 0	....
1863-64	....	....	40 0 0	396,199 3 11½	8,092 13 0	163,685 15 4	155 0 0	....

STATEMENT I.—*continued.*

YEAR.	Hoolgee or Kelthe. 10	Toor. 11	Seerus. 12	Teel. 13	Ooreed. 14	Moong. 15	Juwar. 16
	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.
In 1859-60	160 0 0	2,090 19 0	....	3,593 34 4	3,471 7 /8	479 6 4	....
1860-61	85 0 0	2,253 32 4	....	8,314 36 4	13,685 21 4	534 36 4	....
1861-62	85 0 0	2,230 23 0	....	8,274 1 4	14,969 12 8	660 33 0	....
1862-63	40 1 12	2,441 34 0	....	7,338 33 8	15,041 16 4	684 33 0	....
1863-64	38 0 0	2,187 16 8	82 7 0	25,806 4 4	26,808 38 0	626 35 4	....

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STATEMENT I.—*continued.*

YEAR.	Hemp.	Koosoomb or Kurdee.	Chillies.	Castor Seed.	Sugar Cane.	Cotton.	Tobacco.	Indigo.
	17	18	19	20	21	22	23	24
	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.
In 1859-60	587 28 0	102 0 0	41 23 0	459 26 0	4,076 38 4	....	....	....
1860-61	788 8 12	161 28 0	33 38 0	532 37 0	3,965 20 0	....	....	....
1861-62	743 4 4	137 0 0	36 29 0	525 9 0	4,140 27 0	....	....	....
1862-63	694 5 4	110 15 0	38 3 4	531 36 0	4,398 14 4	....	....	....
1863-64	1,528 37 8	92 24 0	50 28 0	428 36 0	4,181 0 12	....	....	....

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STATEMENT I.—*continued.*

YEAR.	Kodra.	Botwas.	Salt Pans.	Lauf.	Jeera.	Fallow Grass Land.	Jera or Barley.	Miscellaneous.
	25	26	27	28	29	30	31	32
	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.
In 1859-60	2,571 0 0	....	7,248 26 6	....	....	150,123 10 4	....	165 38 4
1860-61	293 0 0	....	7,426 37 14	....	....	164,744 6 8	....	894 31 4
1861-62	251 0 0	....	8,108 12 2	....	....	167,810 29 12	....	750 39 8
1862-63	379 15 0	....	8,204 5 6	....	....	225,689 31 0	....	640 24 4
1863-64	343 20 8	....	9,304 37 0	....	....	241,036 9 4	....	602 15 8

STATEMENT I.—continued.

YEAR.	Plantains.	Ginger.	Cocoanut and Betelnut.	Mango Groups.	Coriander.	Vegetable.	Wuree.
	33	34	35	36	37	38	39
	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.
In 1859-60	1,055 0 0	189 0 0	2,635 21 8	203 27 4	320 27 4	556 9 8	3,981 10 4
1860-61	966 0 0	234 0 0	4,112 35 4	642 13 12	363 19 0	431 38 8	15,550 8 4
1861-62	1,817 10 0	203 0 0	4,254 34 8	682 23 12	200 19 0	490 28 12	13,733 13 8
1862-63	2,014 36 0	341 3 0	4,226 17 8	692 20 4	196 38 0	784 29 0	19,029 12 12
1863-64	2,032 9 0	350 5 0	4,225 15 8	679 26 13¼	264 14 12	705 30 4	18,856 19 8

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STATEMENT I.—*continued.*

YEAR.	Chowlee.	Wal.	Betel Leaves.	Watana.	Total.	REMARKS.
	40	41	42	43	44	45
	A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	
In 1859-60	874 0 0	1,445 27 4	99 11 0	40 0 0	626,625 17 2	
1860-61	1,017 6 0	1,550 29 8	100 20 0	43 3 0	703,368 34 2	
1861-62	1,065 13 0	1,371 9 4	86 0 0	12 0 0	781,462 0 10	
1862-63	923 22 0	1,706 34 12	136 0 0	17 20 0	834,325 32 6	
1863-64	916 29 8	1,891 9 12	108 29 0	17 39 0	911,339 14 8½	

Tanna, Collector's Office,
7th December 1864.

S. St. J. GORDON,
Collector.

II.—*STATEMENT showing the Extent of Land under Cultivation in the KHANDEISH COLLECTORATE.*

YEAR.	Jowaree.	Bajree.	Wheat.	Rice.	Gram.	Natchnee.	Sawa.	Ralé.
1	2	3	4	5	6	7	8	9
	A.	A.	A.	A.	A.	A.	A.	A.
In 1859-60	263,133	419,974	143,626	6,696	52,818	....	....	....
1860-61	322,695	454,105	114,545	10,263	51,622	....	....	....
1861-62	348,726	439,364	132,108	10,243	64,771	....	....	....
1862-63	361,084	492,347	170,795	9,805	75,794	....	....	....
1863-64	358,124	516,190	184,734	9,773	90,054	....	....	....
Total..	1,653,762	2,321,880	745,808	46,780	335,059	....	....	....

The exact area of land cultivated with the articles named in columns 7, 8, 9, 10, 12, 14, 15, 17, 19, 20, 25, 26, 27, 28, 29, and 31, cannot be ascertained, because they are mixed with bajree, jowaree, &c.; such have therefore been included in the total of column 32, "other products."

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STATEMENT II.—*continued.*

YEAR.	Hooglee or Kelthee.	Toor.	Mutt.	Teel.	Oored.	Moong.	Juwas, called also Tilli.	Hemp.	Koosoomb or Kurdee.
	10	11	12	13	14	15	16	17	18
	A.	A.	A.	A.	A.	A.	A.	A.	A.
In 1859-60	..	29,793	..	138,971	..	..	135,818	..	498
1860-61	..	26,077	..	162,144	..	..	82,961	..	1,455
1861-62	..	38,532	..	170,293	..	..	82,180	..	1,963
1862-63	..	36,657	..	137,256	..	..	121,427	..	1,617
1863-64	..	38,820	..	162,025	..	..	108,440	..	960
Total..	..	169,879	..	770,689	..	..	530,826	..	6,493

STATEMENT II.—*continued.*

YEAR.	Chillies.	Castor Seed.	Sugar Cane.	Cotton.	Tobacco.	Indigo.	Bodra.	Bowta.	Salt Pans.
	19	20	21	22	23	24	25	26	27
	A.	A.	A.	A.	A.	A.	A.	A.	A.
In 1859-60....	..	..	4,146	213,782	3,436	19,178	..	..	..
1860-61....	..	..	4,088	192,653	7,520	23,155	..	..	..
1861-62....	..	..	3,629	258,193	6,980	20,956	..	..	..
1862-63....	..	..	4,985	252,842	6,308	14,548	..	..	..
1863-64....	..	..	4,447	358,649	9,309	13,424	..	..	..
Total..	..	..	21,295	1,276,119	33,553	91,261	..	..	..

STATEMENT II.—*continued.*

YEARS.	Kaug. 28	Jeera. 29	Fallow Kooruns or Grass Land. 30	Jewa or Barley. 31	Other Products. 32	TOTAL. 33	REMARKS. 34
	A.	A.	A.	A.	A.	A.	
In 1859-60	..	..	1,590,353	..	193,108	3,215,330	
1860-61	..	..	1,566,024	..	231,741	3,251,048	
1861-62	..	..	1,732,193	..	234,256	3 ,544,387	
1862-63 ...	..	..	1,693,538	..	209,400	3,588,403	
1863-64	..	..	1,661,700	..	227,098	3,743,747	
Total....	..	..	8,243,808	..	1,095,603	17,342,915	

No. 2075 OF 1864.

Submitted to the Revenue Commissioner, N. D., with reference to his Circular letter No. 3423 B dated the 29th October 1864.

Khandeish Collector's Camp, Parola,
24th November 1864.

L. ASHBURNER,
Collector.

III.—*STATEMENT showing the Extent of Land under Cultivation in the SURAT COLLECTORATE.*

YEARS.	Jowaree.	Bajree.	Wheat.	Rice.	Gram.	Soowa.	Hooglee or Kulthee.	Toor.
1	2	3	4	5	6	7	8	9
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	154,574 10	19,164 10	102,437 20	76,024 30	1,486 3	992 0	5 6	7,601 30
1860-61	174,600 0	20,888 0	99,071 20	86,222 8	1,837 8	284 0	6 18	11,239 25
1861-62	18,176 4	22,697 4	86,926 11	86,515 37	2,537 31	597 5	3 21	10,870 1
1862-63	129,730 30	21,821 30	87,235 10	90,696 24	2,874 13	470 13	..	12,594 4
1863-64	144,794 4	21,487 1	92,368 32	90,155 21	2,218 8	310 2	17 4	9,018 21

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STATEMENT III.—*continued.*

YEARS.	Mutt.	Teel.	Ooreed.	Moong.	Hemp.	Kussoomb or Kurdee.	Chillies.	Castor Seed.
	10	11	12	13	14	15	16	17
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	48 0	3,429 30	2,088 30	66 0	1,140 20	484 30	333 3	27,758 20
1860-61	79 20	2,516 25	2,720 0	78 0	1,477 0	418 32	467 10	18,793 25
1861-62	63 17	7,626 20	2,895 27	64 28	1,435 32	572 17	515 5	25,345 30
1862-63	61 38	4,031 31	3,431 29	178 20	1,417 21	447 38	190 36	23,140 19
1863-64	29 32	3,300 10	2,593 36	47 34	1,081 20	296 36	145 32	21,782 5

STATEMENT III.—*continued.*

YEARS.	Sugar Cane.		Cotton.		Tobacco.		Indigo.		Kodra.		Bewta.		Salt Pans.		Lang.	
	18		19		20		21		22		23		24		25	
	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.
In 1859-60	4,878	10	202,964	22	3,467	0	871	21	32,019	28	418	19	963	0	17,319	18
1860-61	4,652	20	207,232	36	2,350	5	1,209	0	38,330	20	286	35	555	32	14,911	20
1861-62	4,509	31	201,808	37	2,716	11	1,302	10	46,685	30	448	22	356	5	14,381	5
1862-63	4,669	2	243,440	39	1,711	39	708	1	41,530	15	353	33	355	21	14,338	14
1863-64	5,324	19	243,441	0	2,540	8	438	31	45,600	24	444	28	356	16	15,605	14

STATEMENT III.—*continued.*

YEARS.	Fallow or Grass Land.	Jewa or Barley.	Natchnee.	Other Products.	TOTAL.	REMARKS.
	26	27	28	29	30	31
	A. G.	A. G.	A. G.	A. G.	A. G.	
In 1859-60	132,480 10	0 30	8,397 12	35,030 18	836,385 30	
1860-61	178,417 7	0 20	9,377 35	41,204 27	918,229 8	
1861-62	6,885 33	0 15	9,092 26	41,592 24	860,623 19	
1862-63	193,638 36	5 2	5,745 14	40,322 0	925,643 12	
1863-64	190,580 6	0 21	8,393 39	37,469 6	939,842 30	

Surat Collector's Camp, Teethul,
10th May 1865.

J. W. ROBERTSON,
Collector.

IV.—*STATEMENT showing the Extent of Land under Cultivation in the AHMEDABAD COLLECTORATE, as called for in Revenue Commissioner's No.* 3423 B,—*29th October* 1864.

YEARS.	Jowaree.		Bajree.		Wheat.		Rice.		Gram.		Natchnee.		Sawa.		Ralé.	
1	2		3		4		5		6		7		8		9	
	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.
In 1859-60	104,094	5	77,273	34	83,807	37	32,192	17	....		....		....		....	
1860-61	117,540	1	90,287	9	67,804	25	31,041	29	....		....		....		....	
1861-62	113,567	29	114,458	20	63,552	18	31,994	9	....		....		....		....	
1862-63	105,753	29	109,102	32	83,959	27	33,982	34	....		....		....		....	
1863-64	95,170	29	96,986	33	69,961	5	39,320	26	....		....		....		....	

☞ No record was kept of the extent of land cultivated with Gram, Toor, Mutt, Ooreed, and Moong crops; it has therefore been entered in a lump under Pulses, in Column 32. For the same reason Bowta, Kodra, and Kelthi, have been included with the Inferior Crops in Column 34.

STATEMENT IV.—continued.

YEARS.	Hooglee or Kelthi.		Toor.		Muth.		Teel.		Ooreed.		Moong.		Juwas.		Hemp.	
	10		11		12		13		14		15		16		17	
	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.	A.	G.
In 1859-60	....		....		....		15,914	20	....		....		....		773	8
1860-61	....		....		....		13,984	14	....		....		....		774	3
1861-62	....		....		....		16,375	4	....		....		....		370	17
1862-63	....		....		....		21,447	38	....		....		....		323	30
1863-64....	....		....		....		16,396	2	....		....		....		216	7

STATEMENT IV.—*continued.*

YEARS.	Kussoomb or Kurdee.	Chillies.	Castor Seed.	Sugar Cane.	Cotton.	Tobacco.	Indigo.
	18	19	20	21	22	23	24
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	165 21	....	850 22	3,000 19	44,906 11	735 38	420 8
1860-61	203 9	....	1,065 6	3,390 26	57,685 13	726 14	451 1
1861-62	143 3	....	942 34	1,845 7	61,992 39	622 18	703 28
1862-63	309 3	....	2,658 12	2,787 1	73,005 15	818 27	638 0
1863-64	161 33	....	1,444 28	3,205 4	99,063 0	1,096 30	625 0

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STATEMENT IV.—*continued.*

YEARS.	Kodra.	Bowta.	Salt Pans.	Lang.	Jeera.	Fallow or Grass Land.	Jewa or Barley.
	25	26	27	28	29	30	31
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	....	....	120 13	....	....	18,377 15	3,494 28
1860-61	....	....	....	....	....	22,057 29	3,698 13
1861-62	....	....	....	....	....	28,796 15	4,441 8
1862-63	....	....	....	....	....	35,376 28	4,341 20
1863-64	....	....	....	....	....	44,780 29	5,521 7

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STATEMENT IV.—*continued.*

YEARS.	Other Products.		Inferior Crops, such as Buntee, Kang, Kelthi, &c.	TOTAL.	REMARKS.
	Pulses.	Vegetables.			
	32	33	34	35	36
	A. G.	A. G.	A. G.	A. G.	
In 1859-60	35,899 2	2,899 10	....	424,925 28	
1860-61	39,008 29	3,602 29	....	453,321 10	
1861-62	49,434 20	3,314 1	....	502,554 30	
1862-63	32,217 37	8,697 31	17,911 21	533,332 25	
1863-64	29,855 26	5,966 5	30,207 37	539,979 21	

J. E. OLIPHANT,
Collector.

V.—*STATEMENT Showing the Extent of Land under Cultivation in the KAIRA COLLECTORATE.*

YEARS.	CULTIVABLE.							
	Bajree.	Jowaree.	Wheat.	Bowta.	Rice.	Toor.	Tobacco.	Sugar Cane.
1	2	3	4	5	6	7	8	9
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	98,080 36	37,161 18	5,390 10	22,740 15	32,005 4	4,634 28	10,472 37	1,820 13
1860-61	141,022 9	33,974 31	6,767 25	26,303 30	35,690 28	4,316 18	10,336 6	1,623 37
1861-62	105,597 38	32,053 0	6,903 19	28,724 36	37,049 24	4,808 20	11,747 1	1,395 30
1862-63	112,386 23	36,620 12	7,291 33	29,161 16	38,278 16	4,345 4	11,732 8	2,712 7
1863-64	148,483 27	31,273 16	6,910 15	30,165 17	35,342 15	4,796 19	11,761 39	3,061 32

STATEMENT V.—*continued.*

YEARS.	CULTIVABLE.							
	Cholla.	Moong.	Mutt.	Ooreed.	Gram.	Wall.	Jeera.	(Garden) Different Kinds of Fruits, &c.
	10	11	12	13	14	15	16	17
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	1,443 11	775 25	3,939 3	632 31	697 19	90 13	1,912 31	96 7
1860-61	1,487 7	916 19	4,225 10	685 2	297 29	117 24	1,597 7	6 10
1861-62	1,775 12	3,026 15	2,435 26	803 21	281 3	186 14	1,336 5	4 0
1862-63	1,980 5	1,287 31	5,286 8	1,730 27	722 1	388 16	1,644 1	2 29
1863-64	1,669 25	1,139 2	2,777 10	1,309 2	486 33	335 0	1,551 22	2 21

STATEMENT V.—continued.

YEARS.	CULTIVABLE.							
	Chillies.	Ginger, Green, &c.	Onions, &c.	Kang.	Opium.	Wuguydoo.	Aria or Water Melon.	Methi Seeds.
	18	19	20	21	22	23	24	25
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	381 30	174 16	51 21	32 1	129 23	2,034 6	226 14	60 17
1860-61	349 7	138 4	65 37	61 4	130 10	1,733 12	310 22	52 7
1861-62	489 29	102 15	229 17	212 36	121 10	2,336 22	435 26	70 4
1862-63	690 21	110 25	491 33	190 12	130 0	1,755 5	886 36	233 13
1863-64	661 8	124 7	454 7	196 28	107 2	1,778 23	1,115 0	122 28

STATEMENT V.—continued.

YEARS.	CULTIVABLE.							
	Bhang.	Rye.	Rajgeero.	Safflower.	Cotton Seed.	Chino.	Teel.	Wulliaree.
	26	27	28	29	30	31	32	33
	A. G	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	..	11 17	31 21	2,016 36	5,230 17	62 30	818 12	18 13
1860-61	..	14 11	31 31	2,306 23	4,948 35	90 24	980 16	17 9
1861-62	1 6	12 0	36 2	2,473 12	3,006 18	91 5	1,203 34	21 16
1862-63	2 11	103 17	55 9	2,875 0	5,927 10	101 27	1,352 23	32 2
1863-64	..	45 0	59 10	3,110 6	7,123 29	336 32	685 37	21 39

STATEMENT V.—*continued.*

YEARS.	CULTIVABLE.									
	Sawa.	Indigo.	Maize.	Vegetable.	Straw-Jowaree.	Pumpkin or Pompion.	Sweet Potatoes.	Asaleea.	Gowar.	Buntee.
	34	35	36	37	38	39	40	41	42	43
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	14 12	359 36	56 24	254 0	4,390 0	..	92 34	5 12	5,499 20	387 19
1860-61	17 6	558 24	54 6	184 26	2,971 3	2 38	155 16	..	6,023 5	711 28
1861-62	14 12	521 12	98 7	212 20	2,932 11	8 33	110 26	13 38	6,172 2	1,079 31
1862-63	14 11	367 13	62 20	240 3	2,731 2	11 32	124 30	12 20	5,946 17	673 12
1863-64	15 0	278 34	109 31	243 8	3,850 21	20 23	69 39	6 36	6,269 39	869 37

STATEMENT V.—continued.

YEARS.	CULTIVABLE.				WASTE.			
	Barley.	Kodra.	Castor Seed.	Total.	Beer.	Fallow.	Total.	Total of Columns 47 and 50.
	44	45	46	47	48	49	50	51
	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
In 1859-60	1,709 28	38,346 22	219 16	284,509 25	2,353 6	66,458 35	68,812 1	353,321 26
1860-61	2,174 20	40,298 28	302 1	297,152 25	3,222 0	58,920 29	62,142 29	359,295 14
1861-62	2,230 3	39,499 27	385 12	302,250 30	3,082 19	56,795 2	59,877 21	362,128 11
1862-63	2,301 36	40,428 25	696 32	324,119 24	3,212 3	74,069 12	77,281 15	401,400 39
1863-64	2,213 39	37,332 5	590 38	348,880 21	3,845 22	61,492 37	65,338 19	414,219 0

E. P. ROBERTSON,
Acting Collector.

V.—*STATEMENT showing the Extent to which the Principal Products were Cultivated in each of the Collectorates of the Southern Division (except Canara) in each of the years* 1859-60 *to* 1862-63, *and in the Collectorates of Ahmednuggur, Belgaum, and Sattara, in* 1863-64 *also.*

Collectorates.		Jowaree.			Bajree.			Wheat.			Rice.		
1		2			3			4			5		
		A.	G.	A.	A.	G.	A.	A.	G.	A.	A.	G.	A.
Poona.	1859-60 ..	420,641	9	14	576,957	10	12	78,962	37	3	50,931	11	12
	1860-61 ..	451,388	0	0	532,174	0	0	83,270	0	0	80,213	10	12
	1861-62 ..	458,722	0	0	534,183	0	0	85,057	0	0	80,195	0	0
	1862-63 ..	522,182	32	0	465,307	0	0	84,588	0	0	88,927	0	0
Ahmed-nuggur.	1859-60 ..	744,294	20	4	994,415	33	12	288,794	4	8	20,788	27	0
	1860-61 ..	779,409	15	12	1,005,466	18	4	262,436	9	0	26,344	39	12
	1861-62 ..	744,047	11	12	1,114,998	8	0	286,853	2	8	26,703	5	12
	1862-63 ..	1,257,772	37	12	546,216	23	4	455,480	7	4	23,346	38	0
	1863-64 ..	902,527	14	0	1,078,363	2	13	379,438	1	12	27,624	15	6
Shola-poor.	1859-60 ..	1,446,000	31	0	219,770	33	0	84,310	16	0	14,166	19	0
	1860-61 ..	1,420,045	33	0	296,865	32	0	74,980	7	0	13,828	36	0
	1861-62 ..	1,438,230	35	0	242,004	25	0	99,821	17	0	14,356	12	0
	1862-63 ..	1,581,199	25	8	167,400	8	4	159,856	22	12	12,352	8	0
Rutna-gherry.	1859-60 ..	....			....			....			144,080	32	0
	1860-61 ..	....			....			....			143,690	17	9
	1861-62 ..	....			....			....			147,678	33	12
	1862-63 ..	....			....			....			151,444	13	4
Belgaum.	1859-60 ..	623,988	12	11	107,755	27	10	67,978	23	8	46,715	31	0
	1860-61 ..	690,503	29	3	110,812	10	12	75,573	5	8	69,045	12	0
	1861-62 ..	676,248	17	13	121,925	9	12	77,724	4	8	73,287	26	0
	1862-63 ..	655,912	38	0	118,563	0	0	59,876	39	0	74,322	10	2½
	1863-64 ..	520,947	33	0½	110,531	38	0	48,297	34	12	70,858	39	12¼
Dhar-war.	1859-60 ..	442,281	13	0	7,977	13	0	138,194	30	0	70,599	9	0
	1860-61 ..	447,050	3	0	9,804	35	0	143,985	26	0	76,259	0	0
	1861-62 ..	431,499	16	0	8,147	33	0	141,911	6	0	80,538	13	0
	1862-63 ..	430,344	34	0	11,136	27	0	106,237	24	0	92,251	28	0
Sattara.	1859-60 ..	556,655	22	0	615,417	37	0	105,023	4	0	38,640	9	0
	1860-61 ..	563,705	28	0	649,071	3	12	135,591	4	7	23,093	22	0
	1861-62 ..	606,253	16	8	613,278	34	8	92,866	19	12	41,654	17	8
	1862-63 ..	482,487	5	0	500,832	19	0	156,443	24	0	74,773	1	0
	1863-64 ..	623,219	19	0	528,211	17	0	164,036	37	0	93,716	28	0

STATEMENT VI.—*continued.*

COLLECTORATES.		Gram.	Natchnee or Naglee.	Sawa.	Rala.
		6	7	8	9
		A. G. A.	A. G. A.	A. G. A.	A. G. A.
POONA.	1859-60 ..	66,122 13 13	....	....	....
	1860-61 ..	63,170 0 0	....	....	....
	1861-62 ..	67,762 0 0	....	....	....
	1862-63 ..	63,536 0 0	....	....	....
AHMEDNUGGUR.	1859-60 ..	154,946 21 0	64,393 28 0	24,023 30 8	....
	1860-61 ..	117,593 14 4	58,768 29 12	17,952 16 8	2,957 14 0
	1861-62 ..	160,509 3 8	....	....	....
	1862-63 ..	207,462 20 12	....	....	....
	1863-64 ..	143,362 19 0	....	....	....
SHOLAPOOR.	1859-60 ..	71,285 33 0	....	6,294 30 0	....
	1860-61 ..	70,929 39 0	....	2,448 18 0	....
	1861-62 ..	86,187 16 0	....	2,485 27 0	....
	1862-63 ..	170,895 14 0	....	11,024 11 0	....
RUTNÁGHERRY	1859-60 ..	....	72,529 26 4	44,792 0 0	....
	1860-61 ..	....	77,286 36 0	47,035 35 11	....
	1861-62 ..	....	75,349 29 12	46,724 12 0	....
	1862-63 ..	....	74,247 18 0	45,545 29 0	....
BELGAUM.	1859-60 ..	37,809 20 0½	32,652 18 0	26,279 20 0	33,056 7 4
	1860-61 ..	51,814 5 0	37,465 10 0	26,918 4 0	42,553 7 12
	1861-62 ..	59,111 4 0	37,590 26 0	....	....
	1862-63 ..	49,691 28 0	32,329 30 0	....	....
	1863-64 ..	35,155 0 0	30,277 21 8	....	....
DHARWAR.	1859-60 ..	28,784 38 0	....	....	....
	1860-61 ..	29,844 14 0	....	....	....
	1861-62 ..	28,980 23 0	....	....	....
	1862-63 ..	30,391 14 0	....	....	....
SATTARA.	1859-60 ..	126,275 30 0	....	....	....
	1860-61 ..	115,728 34 15	....	....	....
	1861-62 ..	110,459 15 0	....	....	....
	1862-63 ..	141,057 26 0	....	....	....
	1863-64 ..	134,150 4 0	....	....	....

STATEMENT VI.—continued.

Hoolgee or Kooltee.			Toor.			Mutt.			Teel or Koorasnee.			Ooreed.		
10			11			12			13			14		
A.	G.	A.	A.	G.	A.	A.	G.	A.	A.	G.	A.	A.	G.	A.
....			....			37,036	23	4	....			3,390	8	0
....			....			36,022	0	0	....			3,729	0	0
....			....			36,067	0	0	....			3,977	0	0
....			....			28,671	0	0	....			3,819	0	0
25,862	32	8	44,500	23	8	30,020	18	8	92,465	27	8	16,279	13	8
27,875	3	8	48,347	17	4	26,113	35	12	76,133	25	8	19,745	30	0
....			....			....			100,662	39	4	....		
....			....			....			97,227	18	6	....		
....			....			....			99,842	22	0	....		
11,308	14	0	71,172	21	0	9,138	7	0	28,546	1	0	570	20	0
11,185	19	0	79,584	15	0	8,807	19	0	21,205	36	0	981	28	0
7,653	21	0	76,392	7	0	15,629	4	0	24,515	37	0	1,037	9	0
8,669	11	0	41,233	9	0	15,286	28	0	28,187	31	0	5,301	0	0
....			....			....			....			....		
....			....			....			....			....		
....			....			....			....			....		
....			....			....			....			....		
37,064	0	0	72,667	2	0	2 797	35	0	13,246	30	0	680	22	0
37,515	8	0	66,201	23	0	2,062	15	0	13,200	14	12	664	33	0
....			....			....			77,975	0	5	....		
....			....			....			67,878	39	0	....		
....			....			....			....			....		
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STATEMENT VI.—continued.

Collectorates.		Juwar or Linseed.	Hemp or Flax.	Kurdee.	Castor Oil.	Sugar Cane.
		15	16	17	18	19
		A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.
Poona.	1859-60 ..	305 0 0	217 10 0	50,937 17 0	....	8,673 19 0
	1860-61 ..	375 0 0	369 0 0	48,465 0 0	....	9,292 0 0
	1861-62 ..	275 0 0	574 0 0	48,538 0 0	....	9,325 0 0
	1862-63 ..	175 0 0	562 0 0	68,418 0 0	....	8,927 0 0
Ahmed-nuggur.	1859-60 ..	12,307 21 0	21,187 24 8	71,822 6 0	1,187 12 0	6,523 32 8
	1860-61 ..	6,211 31 12	16,697 17 4	73,037 1 0	666 35 0	8,255 8 4
	1861-62 ..	6,254 34 0	18,440 31 0	....	886 27 0	6,931 16 8
	1862-63 ..	10,204 32 0	7,104 18 4	....	641 11 0	8,241 34 0
	1863-64 ..	5,615 1 4	12,219 32 0	....	1,011 34 0	8,927 39 0
Sholapoor.	1859-60 ..	46,643 23 0	....	61,570 3 0	15,172 29 0	3,681 17 0
	1860-61 ..	45,544 16 0	....	52,310 28 0	12,182 9 0	2,560 34 0
	1861-62 ..	49,254 20 0	....	53,905 36 0	11,242 26 0	3,315 18 0
	1862-63 ..	60,365 26 0	....	69,232 35 0	16,207 36 0	13,617 38 0
Rutnagherry.	1859-60 ..	....	3,258 34 8	....	....	....
	1860-61 ..	....	3,306 12 14	....	....	....
	1861-62 ..	....	3,419 10 0	....	....	....
	1862-63 ..	....	3,354 10 8	....	....	....
Belgaum.	1859-60 ..	3,432 26 0	3,235 16 0	26,468 26 6½	15,431 22 0	9,736 24 0
	1860-61 ..	4,270 1 0	4,084 17 0	31,676 1 8	22,374 33 0	8,830 10 0
	1861-62 ..	4,172 12 0	4,202 15 0	....	....	10,756 6 0
	1862-63 ..	....	2,781 1 0	....	....	9,177 4 0
	1863-64 ..	3,220 17 0	2,413 15 0	....	47,179 27 0	6,112 7 0
Dharwar.	1859-60 ..	9,890 37 0	3,005 35 0	....	....	5,142 0 0
	1860-61 ..	11,072 27 0	3,758 31 0	....	....	4,596 2 0
	1861-62 ..	9,702 36 0	3,717 10 0	....	....	4,955 7 0
	1862-63 ..	16,100 30 0	2,252 2 0	....	....	5,677 14 0
Sattara.	1859-60 ..	....	1,045 33 0	....	....	21,723 34 0
	1860-61 ..	....	1,029 9 6	....	....	21,963 8 5
	1861-62 ..	....	1,589 0 12	....	....	31,216 36 8
	1862-63 ..	....	4,830 8 0	....	....	49,579 15 0
	1863-64 ..	....	2,646 16 0	....	....	46,734 38 0

Cotton.	Tobacco.	Chillies.	Other Products.	Total.	
20	21	22	23	24	25
A. G. A.	A. G. A.	A. G. A.	A. G. A.	A. G. A.	
6,933 23 0	....	....	353,290 17 4	1,654,399 0 14	
8,730 15 0	....	....	347,604 9 14½	1,664,801 35 10½	
8,845 19 0	....	....	357,831 21 4¾	1,691,352 0 4¾	
471 30 0	....	....	360,512 36 12¾	1,696,097 18 12¾	
4,455 0 0	6,801 38 4	....	393,431 26 12	3,018,493 3 4	
6,909 14 0	13,604 3 8	....	338,262 6 12	2,932,794 26 12	
9,490 19 0	6,684 28 12	....	694,386 23 0	3,176,849 10 0	
2,571 10 0	4,448 18 8	....	625,722 9 4	3,246,440 38 6	
5,382 17 0	7,456 14 8	....	671,969 13 3	3,343,763 31 14	
132,296 6 0	4,340 29 0	....	111,554 35 0	2,337,824 7 0	
132,395 14 0	7,601 25 0	....	132,336 31 0	2,385,825 39 0	
152,731 3 0	6,254 4 0	....	122,856 30 12	2,407,874 27 12	
179,116 10 12	7,172 16 0	....	151,615 30 0	2,698,735 0 4	
....	....	....	102,144 29 8	366,806 2 4	
....	....	....	104,287 21 14	375,607 3 12	
....	....	....	97,358 19 4	370,530 24 12	
....	....	....	109,471 39 8	384,063 30 4	
152,966 9 8	5,245 9 0	8,569 1 1	180,084 32 12¼	1,526,862 15 13¼	
136,577 25 3	7,878 14 0	8,508 29 0	164,362 7 9¼	1,612,897 10 3¾	
158,620 20 0	6,472 33 0	....	347,675 28 11¾	1,655,762 3 1¾	
161,640 26 0	4,649 34 0	....	52,400 38 14¼	1,589,225 8 0¾	
202,904 37 4	3,345 36 0	....	447,708 21 7½	1,528,952 7 12¾	
245,714 28 0	2,551 18 0	....	408,533 14 0	1,362,675 33 0	
242,350 15 0	3,295 21 0	....	434,695 4 0	1,406,712 18 0	
254,826 35 0	2,918 13 0	....	443,145 23 0	1,410,393 9 0	
363,215 20 0	1,750 12 0	....	386,441 2 0	1,505,799 7 0	
13,629 9 0	22,531 34 0	....	326,744 24 0	1,867,087 36 0	
32,763 3 4	17,244 7 12	....	383,167 20 13	1,946,957 23 0	
33,581 31 8	23,674 37 8	....	442,406 7 4	1,996,981 16 12	
14,534 2 0	9,966 31 0	....	426,413 10 0	1,860,917 21 0	
25,387 10 0	22,237 38 0	....	412,597 2 0	2,052,938 4 0	

J. R. MORGAN,
Acting Revenue Commissioner, S. D.

—STATEMENT *showing the Extent to which each of the* PRINCIPAL

1860-61, 1861-62,

Years.		Jowaree.	Bajree.	Wheat.	Gram.	Rice.
1		2	3	4	5	6
		A. G.	A. G.	A. G.	A. G.	A. G.
FRONTIER.	1859-60 ..	23,581 38	3,741 28	6,467 16	74 15	53 29
	1860-61 ..	17,942 2	3,538 8	21,177 21	479 34	112 24
	1861-62 ..	25,386 27	4,491 34	36,253 8	387 15	235 28
	1862-63 ..	35,429 23	5,925 37	36,063 37	355 19	390 6
	1863-64 ..	45,888 27	7,128 24	18,243 4	295 12	56 8
SHIKARPOOR.	1859-60 ..	190,652 19	18,117 5	94,133 3	9,024 10	92,975 1
	1860-61 ..	205,587 0	37,053 0	87,926 0	4,216 0	94,172 0
	1861-62 ..	293,701 0	34,026 0	124,473 0	5,761 0	107,595 0
	1862-63 ..	305,232 1	35,551 33	110,853 6	8,836 38	115,531 9
	1863-64 ..	243,688 35	53,379 11	137,064 20	11,274 35	109,739 27
HYDRABAD.	1859-60 ..	77,057 15	172,855 35	18,905 39	3,785 6	54,603 32
	1860-61 ..	80,898 10	163,361 23	17,309 37	2,737 24	48,827 19
	1861-62 ..	96,791 13	171,830 23	17,772 29	2,009 33	50,614 27
	1862-63 ..	84,884 19	197,553 35	22,054 21	2,575 4	52,262 22
	1863-64 ..	77,395 9	161,832 29	26,652 21	4,887 39	50,970 24
KURRACHEE.	1859-60 ..	27,183 7	13,814 19	29,713 4	2,675 3	98,139 9
	1860-61 ..	35,064 12	13,657 18	24,559 29	2,834 7	81,208 23
	1861-62 ..	44,227 22	16,101 28	27,214 9	1,742 14	90,702 22
	1862-63 ..	35,668 16	30,567 37	31,275 37	4,605 19	97,544 34
	1863-64 ..	53,442 1	16,118 32	38,940 7	3,044 20	70,033 16
THURR AND PARKUR.	1859-60 ..	3,051 30	129,812 1	1,656 20	....	4 26
	1860-61 ..	5,366 28	131,987 11	8,035 23	....	1,014 28
	1861-62 ..	7,504 23	128,169 1	13,456 2	....	8,235 19
	1862-63 ..	3,263 38	146,395 27	14,689 31	....	15,107 9
	1863-64 ..	1,974 15	119,539 38	9,261 37	....	22,507 27

PRODUCTS *of the* PROVINCE *of* SIND *has been Cultivated in* 1859-60, 1862-63, *and* 1863-64.

Barley.	Moong.	Mutter.	Mustard.	Sugar Cane.	Cotton.
7	8	9	10	11	12
A. G.	A. G.	A. G.	A. G.	A. G.	A. G.
....	....	....	....	....	2,396 6
....	....	....	....	....	3,077 18
1,631 5	216 37	1,253 0	9,043 5	....	2,416 4
1,522 7	....	487 10	11,773 11	....	1,635 4
4,553 35	....	317 27	31,013 30	....	572 8
....	....	....	....	1,367 30	30,368 2
1,830 0	987 0	10,965 0	25,527 0	697 0	27,220 0
4,281 0	3,287 0	10,476 0	49,958 0	773 0	24,872 0
3,400 24	1,776 17	13,795 18	56,818 0	280 10	15,727 37
9,082 37	1,254 2	18,524 12	153,747 20	521 7	24,314 31
1,632 7	1,552 37	7,421 28	641 39	661 27	14,015 21
1,151 39	1,058 20	3,631 1.	551 20	494 33	12,097 37
1,399 25	1,140 35	3,584 22	654 29	576 18	10,870 35
1,722 34	1,756 1	4,146 29	1,290 9	632 37	12,562 24
1,809 7	1,452 5	5,817 8	1,520 55	653 2	25,419 6
15,116 4	10,572 30	12,446 27	3,832 25	2,056 32	2,105 35
8,884 30	5,515 18	8,539 8	3,734 19	1,769 4	2,743 31
....	4,585 2	7,033 8	4,556 35	1,409 6	1,418 11
11,282 3	7,218 31	7,185 9	11,929 25	1,486 19	1,936 1
18,593 3	5,190 27	11,140 5	19,266 34	1,780 31	1,716 20
....	....	....	....	....	455 2
....	....	....	....	0 20	917 12
....	....	....	....	0 20	844 39
....	....	....	....	....	2,058 0
....	....	....	....	....	1,215 6

STATEMENT VII.—*continued.*

Year.		Tobacco.		Indigo.		Linseed.		Flax.		Bhang.	
		13		14		15		16		17	
		A.	G.	A.	G.	A.	G.	A.	G.	A.	G.
FRONTIER.	1859-60 ..	....		....		....		....		....	
	1860-61 ..	3	4	43	16	....		....		....	
	1861-62 ..	5	6	79	27	....		....		10	13
	1862-63 ..	7	39	171	7	....		....		....	
	1863-64 ..	8	0	86	9	....		....		....	
SHIKARPOOR.	1859-60 ..	3 259	32	2 621	15	....		....		....	
	1860-61 ..	1,072	0	3,336	0	8	0	9	0	142	0
	1861-62 ..	1,577	0	3,450	0	....		10	0	131	0
	1862-63 ..	2,362	6	2,022	26	....		10	10	....	
	1863-64 ..	2,033	8	2,779	28	....		14	34	254	36
HYDRABAD.	1859-60 ..	2,392	2	1,144	25	30	34	312	32	333	37
	1860-61 ..	3,726	30	1,169	17	5	17	207	0	291	30
	1861-62 ..	1,815	2	1,910	26	....		251	36	272	12
	1862-63 ..	2,152	28	1,785	0	....		307	29	275	13
	1863-64 ..	3.975	7	1,490	14	....		282	25	265	6
KURRACHEE.	1859-60 ..	846	23	....		....		....		....	
	1860-61 ..	1,265	20	....		....		....		....	
	1861-62 ..	732	35	....		....		....		....	
	1862-63 ..	803	6	....		....		....		....	
	1863-64 ..	1,096	16	....		....		....		....	
THURR AND PARKUR.	1859-60 ..	....		....		....		....		....	
	1860-61 ..	0	20	....		....		....		....	
	1861-62 ..	....		....		....		....		....	
	1862-63 ..	....		....		....		....		....	
	1863-64 ..	2	3	....		....		....		....	

Commissioner's Office on Circuit, Camp, Sanghur,
24th December 1864.

STATEMENT VII.—*continued.*

Saltpetre.	Oilseeds.	Miscellaneous Products.	Fruits and Vegetables.	Total.	REMARKS.
18	19	20	21	22	23
A. G.	A. G.	A. G.	A. G.	A. G.	
....	....	2,466 16	....	38,781 28	
4 26	....	10,383 11	87 27	56,762 4	
6 1	1,191 7	465 3	87 27	83,160 7	
....	2,720 9	537 34	1 1	97,020 35	
....	2,952 31	644 34	2 0	111,763 9	
....	42,130 15	27,171 32	....	511,821 4	
....	17,275 0	3,053 0	7,818 0	528,893 0	
....	25,487 0	6,714 0	8,199 0	704,771 0	
....	42,562 0	3,587 29	11,674 20	728,260 38	
....	32,639 14	5,674 11	15,246 33	821,235 1	
212 35	55,692 10	8,486 34	1,897 7	403,597 23	
235 28	35,690 20	9,208 20	2,288 15	385,844 0	
197 24	35,258 20	9,033 5	2,374 27	408,360 1	
213 33	84,207 17	10,727 33	2,642 17	483,754 5	
163 26	107,127 36	14,445 39	2,646 2	488,807 20	
....	12,228 29	13,400 29	2,296 19	246,426 32	
....	7,405 33	13,946 7	3,435 8	214,563 27	
....	16,985 33	22,652 20	1,346 9	240,708 14	
....	7,336 24	30,279 11	1,756 16	280,876 8	
....	9,478 6	61,028 21	2,398 4	313,268 23	
....	15,010 13	2,257 29	....	136,048 1	
....	7,640 37	9,686 37	....	164,650 16	
....	15,518 1	13,387 14	....	187,115 30	
....	29,910 15	17,694 87	....	229,119 18	
....	34 676 37	9,104 4	....	198,282 6	

S. MANSFIELD,
Commissioner in Sind.

Forwarded to Dr. Birdwood, Secretary and Curator, Central Museum, Bombay, with the compliments of the Commissioner in Sind.

STATEMENT showing the Mean Monthly **RAINFALL** *at the principal Cities and Stations of the Government of Bombay, calculated from Returns extending from January* A.D. 1852 *to September* A.D. 1861, *inclusive.*

[Cotton Districts are printed in Antique letters, thus, **DHARWAR**.]

	Calculated from Ten Years.									Calculated from Nine Years.			Mean Annual Fall for Nine Years.	
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Augt.	Sept.	Oct.	Nov.	Dec.		
Bombay—	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	In. Ct.	
Observatory, Colaba ..	....	....	....	0 2	0 53	20 44	21 56	10 72	9 62	1 93	0 21	0 13	63 8	
Fort..................	....	....	....	....	0 55	23 87	24 31	11 96	9 74	1 33	....	....	* 48 76	* S. W. Monsoon only, and for ten years.
Byculla	....	....	....	....	†0 78	†24 31	†27 89	†16 8	† 9 47	....	....	....	† 79 13	† S. W. Monsoon only, and for six years only.
Tanna	....	....	....	0 3	0 53	26 65	35 65	21 1	15 13	2 35	0 49	0 2	98 29	
Rutnagherry	**	**	**	**	**	**	**	**	**	**	**	**	**	
Sawunt Warree	....	....	....	0 26	6 82	38 6	49 29	25 04	11 16	7 32	0 21	....	138 0	
SURAT	....	....	....	....	9 5	9 43	14 82	7 20	5 70	0 76	0 2	0 14	34 15	
BROACH	0 1	....	0 26	0 4	0 1	8 24	14 97	8 33	7 3	1 12	0 2	0 16	41 60	
AHMEDABAD	‡0 11	‡....	‡....	‡....	‡0 13	‡ 6 3	‡16 20	‡ 8 32	‡ 4 4	§0 20	§0 4	§....	§ 37 35	‡ For nine years only. § For eight years only.
KAIRA	....	....	....	....	0 46	4 72	15 88	7 15	4 82	0 24	....	....	33 78	
BHOOJ, CUTCH....	0 2	....	....	0 6	0 4	0 96	4 47	4 96	2 80	0 29	0 6	....	14 23	
BARODA............	§....	§0 9	§....	§....	§....	§ 6 87	§15 23	§12 78	§ 5 60	‖0 18	‖0 1	‖ 0 3	‖ 41 67	§ For eight years only. ‖ For seven years only.
Mahee Kanta	....	....	....	....	0 9	4 98	12 18	6 59	2 7	0 31	0 17	....	27 82	
Kattiawar...........	....	....	....	....	....	3 89	8 34	6 82	5 86	....	....	....	24 0	
Palunpore	††	††	††	††	††	††	††	††	††	††	††	††	††	
KHANDEISH	**	**	**	**	**	**	**	**	**	**	**	**	**	
Ahmednuggur	0 17	0 6	0 6	0 15	1 97	5 5	2 66	3 74	6 38	4 33	0 33	0 80	24 30	
Poona.................	....	....	....	0 13	0 26	5 9	8 42	3 92	4 64	3 90	0 27	....	24 85	
Sattara	0 3	....	0 7	0 69	2 87	7 2	16 41	7 85	3 52	4 90	0 58	0 42	43 18	
Kolapore.............	0 4	0 10	0 72	1 66	3 14	6 42	15 38	6 39	4 72	5 29	0 78	0 12	44 72	
Sholapore	0 9	0 5	0 27	1 18	2 20	4 92	4 67	4 60	6 42	4 23	1 29	0 53	30 46	
Belgaum	0 5	....	0 46	1 37	4 59	6 36	15 55	8 67	3 54	4 65	1 13	0 4	46 62	
DHARWAR	0 6	0 3	0 14	1 19	5 28	4 19	6 71	4 45	3 7	6 2	0 78	0 10	31 39	
Sind	**	**	**	**	**	**	**	**	**	**	**	**	**	

** Returns not yet furnished. †† No record.

GEORGE BIRDWOOD.

CSL

STATEMENT showing the mean Maxima and Minima of the THERMO-
calculated from Observations extending from

	CALCULATED FROM									
	January.		February.		March.		April.		May.	
	Mean.		Mean.		Mean.		Mean.		Mean.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
Tanna	86·6	60·6	92·3	62·4	99·0	66·4	*98·88	*77·55	98·5	80·2
Rutnagherry ..	82·6	69·9	83·6	72·2	86·7	72·8	*89·33	*79·22	*89·44	*80·22
Sawunt Warree.	84·8	67·9	86·8	68·9	88·0	73·6	92·2	76·8	89·6	78·9
SURAT	87·7	60·7	91·0	64·3	97·2	70·7	99·2	76·8	99·7	80·0
BROACH	88·0	50·9	93·3	67·5	101·2	76·0	104·9	83·6	105·1	86·6
AHMEDABAD.	82·0	56·0	88·5	60·8	97·3	68·3	102·1	77·4	105·1	83·2
KAIRA	85 2	54·6	87·0	57·3	97·6	69·0	102·8	73·7	104·1	81·8
BHOOJ, CUTCH.	‡81·285	‡51·285	†89·125	†55·375	†98·125	†63·25	†102·25	†73·875	†106·0	†78·375
BARODA	†75·0	†55·375	†79·0	†60·625	†86·875	†67·5	†94·375	†75·125	†95·5	†82·25
Mahee Kanta ..	81·4	58·4	90·5	69·0	96·2	74·1	100·5	78·2	104·2	83·2
Kattiawar......	*85·0	*42·66	*90·33	*47·44	*98·22	*53·44	*102·88	*63·33	*105·33	*70·55
Palunpore	§72·0	§60·5	§71·4	§61·5	§87·25	§72·10	§89·25	§76·5	§99·5	§83·25
KHANDEISH ..	**	**	**	**	**	**	**	**	**	**
Ahmednuggur ..	79·9	54·6	87·0	59·5	94·2	65·6	99·2	72·6	101·8	76·4
Poona	81·8	57·6	86·1	66·2	92·5	70·5	95·9	74·0	96·2	77·8
Sattara	84·2	58·3	87·6	61·2	92·9	68·5	96·3	70·4	95·1	71·4
Kolapore	80·7	61·1	86·7	65·6	91·3	69·1	93·8	73·2	93·5	74·6
Sholapore	86·4	64·1	91·0	68·6	97·2	72·5	100·8	77·8	101·2	78·6
Belgaum	81·6	67·5	86·4	70·1	88·5	72·2	91·2	75·0	89·9	75·5
DHARWAR	85·6	61·7	90·5	65·3	94·4	66·5	97·6	70·1	94·9	70·4
Sind	**	**	**	**	**	**	**	**	**	**

NOTE.—The degrees are of

** Returns not

* For nine years only.

† For eight years only.

‡ For seven years only.

METER at the Principal Cities and Stations of the Government of Bombay January A.D. 1852 *to September* A.D. 1861, *inclusive.*

TEN YEARS.								CALCULATED FROM NINE YEARS.					
June.		July.		August.		September.		October.		November.		December.	
Mean.		Mean.		Mean.		Mean.		Mean.		Mean.		Mean.	
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
94·8	77·6	82·7	76·1	84·2	75·8	85·3	75·1	90·44	71·22	89·11	66·22	85·77	61·55
†89·0	†77·875	*83·33	*76·77	*83·33	*75·0	*83·44	*77·0	85·55	75·0	†85·0	†73·75	†84·875	†71·875
88·1	76·8	80·9	75·8	80·7	75·4	*82·33	*75·33	84·22	74·55	83·77	70·55	83·55	69·11
93·8	79·6	89·2	78·2	87·3	78·4	89·5	77·0	92·0	73·44	89·55	66·55	87·11	63·33
100·3	82·3	92·8	73·7	91·0	79·2	92·9	78·7	93·33	79·44	89·88	70·88	85·66	65·44
105·1	82·6	96·5	79·5	91·5	78·9	92·7	78·4	93·44	70·88	89·77	64·33	82·88	58·11
101·7	80·2	94·7	77·3	88·9	77·7	93·5	75·9	81·66	71·66	88·22	65·55	84·88	57·44
*104·66	*80·66	*96·88	*80·33	†91·375	†77·25	†94·125	†75·625	†95·75	†69·5	†91·5	†60·125	†81·5	†55·5
†92·875	†82·0	†86·75	†79·75	†82·875	†76·375	†84·625	†75·875	‡85·428	‡72·428	‡79·714	‡61·0	‡74·0	‡57·0
101·9	82·4	84·3	79·2	89·0	77·7	90·6	77·5	90·0	72·66	86·0	67·44	82·88	60·44
104·2	74·2	95·1	73·5	90·5	72·3	92·9	72·0	94·66	63·44	†92·375	‡51·25	†88·5	†44·875
§102·5	§85·6	§98·0	§81·75	§87·75	§70·0	§80·0	§70·75	‖89·0	‖79·33	‖84·0	‖72·0	‖76·0	‖68·33
..	..	..	..	..	..	..	..	..	..	..	..	..	..
97·1	75·0	90·9	74·2	88·3	73·4	86·8	71·6	87·22	65·44	84·66	61·0	80·33	57·0
89·4	73·3	82·0	73·1	79·9	71·9	82·8	70·5	85·55	68·0	84·22	63·22	82·22	58·44
89·4	70·9	81·0	69·9	79·6	69·1	83·2	67·1	85·22	64·44	84·44	60·77	83·11	57·77
87·5	73·3	80·9	72·0	79·2	72·1	82·5	71·8	82·88	71·11	82·66	66·0	80·66	62·0
95·9	75·7	90·1	74·4	89·1	74·5	88·4	73·4	87·77	71·77	85·44	66·22	84·0	61·33
84·0	75·0	77·4	71·4	78·6	71·9	79·9	71·8	80·88	71·33	81·33	67·22	79·44	65·77
87·4	69·9	79·2	69·3	80·6	68·5	82·7	68·3	84·22	67·77	84·44	62·88	82·77	61·88
..	..	..	..	..	..	..	..	..	..	..	..	..	..

Fahrenheit's Thermometer.
yet furnished.

§ For four years only.
‖ For three years only.

GEORGE BIRDWOOD.

DIVISION I.

Class 2. B.

DRUGS.

N. O. 1. RANUNCULACEÆ. *CROWFOOTS.*

Aconitum ferox. *Wall.*
Aconitum Napellus. *W. Monkshood*, or *Common Wolf's-bane.*
Aconitum palmatum. *Don.*
Aconitum luridum. *H. f. et T.*

Linn. Syst. Polyandria Trigynia.

The root.

Vernacular. *Bikh, Bish, Bishnak, Ati-singeea-bish,* Nep. *Bish, Butsnab-bish,* Beng. *Mahoor,* Hind. *Butchnab,* By. *Ativassa,* Tel.

Habitat. The Himalayas, Sirmoor, Kemaon, Nepaul.

Remarks. Bikh is indifferently applied to the dry roots of all the above species of *Wolf's-bane,* but probably the root of *Aconitum ferox* has become more extensively distributed throughout the Bazars of Asia than those of any other species, and although no characters have yet been described by which it may be specifically recognized, in general estimation it is *Bikh, par excellence. Meetha, Doodhya,* and *Meetha-teelia* are names of preparations of *Bikh.*

Dr. Buchanan, in his "Account of the Kingdom of Nepaul," enumerates four kinds of *Bikh ;* the first, *Singya-bikh,* he refers to a *Smilax ;* the second, *Bikh,* and third, *Nirbisi,* Royle refers to *Aconitum ferox ;* and the fourth, *Bikhma,* the latter author attributes to *Aconitum palmatum.* In the *Mukhzun-ul-Udwieh,* twelve kinds of *Bikh,* according to Royle, are enumerated, all of which it would be futile to attempt identifying, and they are only adverted to in connexion with the second, namely "*Buchnag like Judwar.*" *Judwar, Zudmar,* or *Nirbisi* is the *Zedoaria* of old writers, which some recent writers, on insufficient grounds, consider one with the *Zedoaria rotunda* of modern druggists, the root, according to Roxburgh, of *Curcuma Zedoaria,* the *Huldi,* or *Bunhuldi* of this country. In Sirmoor, however, Royle found the name *Nirbisi* applied to *Delphinium pauciflorum,* "but that," says he, "which is reckoned the best kind of *Nirbisi* in the Indian Bazars is of a very different nature, and brought down from Bissehur and from Umritsur the commercial capital of Lahore. This kind is fusiform and somewhat flattened and wrinkled, of a black colour externally, and in some respects resembling *Bikh* itself; when cut, the substance is found to be compact and of a brownish colour, with a slight degree of bitterness and acrimony." There is *a Judwar* in the Bombay Bazar *like Bikh*, only far more costly; but the root found here, answering to Royle's description of Umritsur *Nirbisi*, is the article lately imported into England under the name of *Padshah Salep*, and which has excited considerable interest there as to its botanical source. Lindley considered it to be liliaceous. Is it not the root of *Asparagus adscendens* mentioned by Royle, whose description is quoted by Lindley at page 204 of the third edition of his Vegetable Kingdom? In Bombay it is not well known, but is often spoken of as *Punjabee Piaz* and *Khorasanee Piaz*, or *Punjab* and *Khorassan Onion.* This question has come under discussion here in consequence of the name *Nirbisi* having been given to *Bikh*. *Nirbisi* signifies *the* antidote, particularly *the* antidote to *Bikh, the* poison; and consequently the term can never with any propriety be applied to the latter virulent narcotic. In Europe *Aconitum Anthora*, W. obtained its specific name because it was believed to be the direct antidote to *Thora*, or *Ranunculus Thora*, while in reality it is also poisonous. See below *Delphinium pauciflorum* in this order, and *Asparagus adscendens*, Royle, N. O. 242. *Bikh* is first mentioned, according to Sprengel, by Nicander. The root of *Gloriosa superba* is known as *Buchnag*, and that of *Lagenandra toxicaria* as *Vutsunab* in Bombay. Also *Butch* is the name of *Acorus Calamus*; *Kala-buchnak* of *Hymenodyction excelsum*; and *Bish-tarak*, *Bish-hupra*, *Bish-bansh*, and *Bish-umba*, respectively of *Argyreia speciosa*, *Trianthema obcordata*, *Beesha rheedii*, and *Cucumis Colocynthis.*

Aconitum heterophyllum. *Wall.*

Linn. Syst. Polyandria Trigynia.

The root.

Vernacular. *Atees*, Hind.

Habitat. The Westward Himalayas.

Remarks. Under this name (*Atees*) according to O'Shaughnessy, the dry tubers of *Asparagus sarmentosus*, the *Soota Mooli* of Bengal, the *Satawree* of Bombay, are commonly sold in the former Presidency. The bark of a species of *Betula* used in Northern India for dyeing Chintz red (Ainslie) goes by the name of *Atees*, as also does Linseed.

Coptis Teeta. *Wall.*

Linn. Syst. Polyandria Polygynia.

The root.

Vernacular. *Mishmee teeta*, Assam.

Habitat. Assam.

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Delphinium pauciflorum. *Royle.*

Linn. Syst. Polyandria Trigynia.

The root.

Vernacular. *Judwar* of Bombay?

Habitat. The Himalayas, from Kashmir to Kemaon.

Remarks. It is uncertain whether the *Judwar* of Bombay is the same root as that referred to this plant by Royle.

Helleborus niger. *Linn.* *Christmas Rose.*

Linn. Syst. Polyandria Polygynia.

The root, Black-Hellebore.

Vernacular. *Katuroum*, Sans. *Kalikootkie,* Dec. *Khertick, Kherbuckuswud*, Arab. *Kherbeck-seeah*, Pers.

Habitat. Sub-Alpine Europe and Nepaul.

Remarks. According to Sprengel, the *Christiana* of the Abbess Hildegard. It is not the ἐλλέβορας μέλας of Dioscorides.

Nigella sativa. *W.* *Small Fennel-flower.*

Linn. Syst. Polyandria Pentagynia.

The seed.

Vernacular. *Krishna-jiraka, Musavi*, Sans. *Kalajira,* Hind. *Mugrela,* Beng. *Koolunjun,* Dec. *Carin-siragum,* Tam. *Nulla-gilakara,* Tel. *Kaloodooroo,* Cey. *Shoonez,* Arab. *Siah-daneh,* Pers. *Hub-sindee,* Egyp.

Habitat. The Mediterranean countries. Cultivated in India.

Remarks. The *Black Cumin* of Scripture; the μελάνθιον of Hippocrates and Dioscorides. Pliny's name for it is *Gith.* Not to be confounded with *Kaliezeerie* the achenes of *Vernonia anthelmintica*, and *Koolinjan* the root stalk of *Alpinia Galanga.* See also "Condiments and Spices.

N. O. 3. MAGNOLIACEÆ. *MAGNOLIADS.*

Illicium anisatum. *Linn.* *Star-anise Tree.*

Linn. Syst. Polyandria Pentagynia.

The capsule, Star-anise.

Vernacular. *Badian khutai, Anasphool,* Hind. *Anasepoo,* Tam. *Budianee-kuttai,* Arab.

Habitat. China.

Remarks. This must not be confounded with the *I. anisatum* of Thurnberg, a native of Japan, and now called after Siebold, as by Linnæus, *I. religiosum* or *Holy Star-anise*, the Japanese laying its branches on

CSL

the graves of their friends, and its capsules being burnt in temples as incense. See also "Condiments and Spices."

N. O. 6. MENISPERMACEÆ. *MENISPERMADS.*

Anamirta Cocculus. *W. et A.*

Linn. Syst. Diœcia Monadelphia.

The fruit, Cocculus Indicus, Cocques du Levant, Bacca Orientalis.

Vernacular. *Kakamari,* Sans. *Kakmari,* Hind. and Dec. *Bacaenka-phal,* Calcutta. *Jermæ,* Hind. and Guz. *Kaka-collei-verei,* Tam. *Kakichimpoo-vitteloo,* Tel. *Pola, Kaandaka-conuveh, Garala-phala,* Mal. *Tuba-bidji,* Malaya.

Habitat. Concan, Malabar, Eastern Archipelago.

Remarks. First noticed by Plukenet, but probably the *Meizaragi* of the Arabians. See also "Narcotics."

Cissampelos Pareira. *Linn.*

Linn. Syst. Diœcia Monadelphia.

The root, Pareira.

Vernacular. *Duk-nirbisee* of the N. W. Provinces. *Pata,* Tel. *Weni-wæla,* Cey.

Habitat. Concan, Malabar, Coromandel, West Indies, the Spanish Main.

Remarks. First noticed by Piso.

Cocculus palmatus. *De C.*

Linn. Syst. Diœcia Hexandria.

The root, Calumba.

Vernacular. *Colombo-ke-jer,* By.

Habitat. Oibo, Mozambique.

Remarks. First noticed by Redi 1675.

Tinospora cordifolia. *Miers.*

Linn. Syst. Diœcia Hexandria.

The root, and stem.

Vernacular. *Amoorta, Guduchi,* Sans. *Guluncha, Gadancha,* Beng. *Gurcha,* Hind. *Gulo, Goolwail,* Dec. *Sheendie-codie,* Tam. *Tippatingay, Galuchi, Manapala,* Tel. *Citamerdoo,* Mal.

Habitat. India.

Remarks. First described by Van Rheede. The starchy extract is sold under the name of *Palo.*

N. O. 8. BERBERIDACEÆ. *BERBERIDS.*

Berberis Lycium. *Royle. Ophthalmic Barberry.*

Berberis aristata. *De C. Nepaul Barberry.*

Linn. Syst. Hexandria Monogynia.

The extract of the bark, and root, and the wood.

Vernacular. **B. Lycium**, *Kushmul,* Himalayas. **B. aristata**, *Chitra,* Himalayas. *Ambarbarees, Aarghees,* Arab. *Zirishk,* Pers. The wood,—*Dar-huld, Dar-chob,* Pers. The extract,—*Rusot, Hind. Hoosiz-hindee,* Arab.

Habitat. The Himalayas.

Remarks. Rusot is the λύκιον ἰνδικὸν of Dioscorides. In the *Ulfaz Udwiyeh, Utrar* and *Unjeebar-roomee* are given as Arab synonymes for *Barberries. Chitra* and *Lal-chitra* are respectively Sanscrit and Bengal names for *Plumbago rosea.*

N. O. 11. NELUMBIACEÆ. *WATERBEANS.*

Nelumbium speciosum. *Will. Egyptian Lotus.*

Linn. Syst. Polyandria Polygynia.

The seed, Pythagorean bean, Coptic bean.

Vernacular. *Kamala, Pudma,* Sans. *Kummal, Pudum, Ambuj, Kungwel, Lal-kummul,* Hind. *Pudmapodoo, Komol, Ponghuj,* Beng. *Neelofir,* Sindh. *Kungwel, Kungevelka,* Dec. *Tawmaray,* Tam. *Yerra-tamaray, Tellani pudmam,* Tel. *Tamara, Bemtamara,* Mal. *Nelun,* Cey. *Baklakoobtee, Neelufir* ? Pers.

Habitat. India, Persia, Ceylon, Siam, Cochin-China, the Philippines, and Moluccas (except Amboyna), China, Japan.

Remarks. The flower is the Lotus of the ancient monuments of Egypt and India. It is now extinct in Egypt. It is strange that the ancient books of the Hindoos, according to Wilford (Asiat. Res. vol. iii. No. xiii.), place the source of the White Nile in the *Padmawan* or Sacred-lily Lake, and that Speke should have found the Nyanza so covered with Water-lilies that one might walk across it on their leaves. This Lotus must be distinguished from two other plants of the same name known to the ancients, viz. the herb *Melilotus officinalis ;* and the Lotus of the Lotophagi, by some thought to be the fruit of *Zizyphus Lotus* (Desfontaines), allied to the *Bair* or *Boree* of India, and by Munby with greater reason, that of *Nitraria tridentata.* Pliny says the Lotus of the Lotophagi is the "Celtis" (*Celtis australis,* Linn.) "which has been naturalized in Italy," but he is wrong, as proved by Fee. Sprengel also, probably misled by Pliny, refers the λωτὸς of Theophrastus (not his λωτὸς αἰγύπτιος) to *C. australis,* for six trees of which, with the estate on which they stood, Cneius Domitius offered L. Crassus 10,000,000 sesterces, and without the trees he refused to buy the estate. The mystic Lotus is sacred to Lakshmi the wife of Vishnoo, who is hence often caled *Kamala*. See also "Starches," and "Fruits and Vegetables."

N. O. 13. PAPAVERACEÆ. *POPPYWORTS.*

Argemone mexicana. *Linn. Mexican Argemone, Gamboge Thistle, Fico del' Inferno, Cardo Santo.*

Linn. Syst. Polyandria Monogynia.

The juice, and seed

Vernacular. *Bramhie, Bramhadundie,* Sans. *Faringee-datura, Suchianas, Bherband,* Hind. *Shial Kanta,* Beng. *Faringee-datura, Peela-datura,* Dec. *Brumhadundoo, Brumarakash,* Tam. *Brumhadundie,* Tel. *Balu-rakkisa, Dotury,* Can.

Habitat. Mexico. Has over-run India and nearly all the tropical region of Asia and Africa.

Remarks. First mentioned by Ferrand. See also "Oils and Oil-seeds."

Papaver somniferum. *Linn. Garden Poppy.*

Linn. Syst. Polyandria Polygynia.

The pounded herb, dry capsule, seed, oil, and concrete juice of the immature capsule, or Opium.

Vernacular. The plant,—*Chosa,* Sans. *Post,* Hind. *Pasto,* Beng. *Casa-casa,* Tam. *Cassa-cassa,* Tel. *Aboonóm* (father of sleep), Arab. The pounded herb,—*Boosa,* Vulg. The capsules,—*Post,* Vulg. The seeds,—*Cuscus,* Vulg. Opium,—*Afeem,* Hind. and Dec. *Afiun,* Hind. and Pers. *Abinie,* Tam. *Afeeoon,* Arab. and Malay.

Habitat. Asia and Egypt. Cultivated in Egypt, Asia Minor, Hindoostan, and China (?)

Remarks. Hippocrates mentions "poppy juice" (μήκωνιον), and Dioscorides and Pliny opium. The latter observes, it was prepared from the "black poppy" (*P. somniferum* var. *nigrum*), and his description of the process closely resembles that given by Kœmpfer as followed in Persia. In India the *White Garden Poppy* is cultivated for opium. The greyish-blue variety of poppy seed is termed *Maw-seed*. The φάρμακον νηπενθές of Homer is thought by many, and with good reason, to have been a preparation of opium, but Royle regards it as referring to *Cannabis sativa* or *Hemp*. Homer mentions the poppy (μήκων). See also "Narcotics," and "Oils and Oil-seeds."

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N. O. 14. FUMARIACEÆ. *FUMEWORTS.*

Fumaria parviflora. *W. et A.*

Linn. Syst. Diadelphia Hexandria.

The herb.

Vernacular. *Pit-papra*, Hind. *Buklut-ul-meelik*, Arab. *Shaturuj, Shatra*, Pers.

Habitat. The Himalayas.

Remarks. Said to be the καπνὸς of the Greeks.

N. O. 15. CRUCIFERÆ. *CRUCIFERS.*

Lepidium sativum. *Linn.* *Common Cress.*

Linn. Syst. Tetradynamia Siliculosa.

The seed.

Vernacular. *Aleverie*, Beng. *Haleem*, Beng. and Dec. *Ahreo*, Sindh. *Adala vitala*, Tel.

Habitat. Persia ; widely cultivated.

Remarks. The κάρδαμον of Hippocrates and perhaps of Dioscorides, and the *Nasturtium* and *Dittander* of Pliny. It is the *Assalia* of the Bombay Customs Tariff. *Alleeveray* is the Tamil for Linseed. See also "Condiments and Spices."

Sinapis *sps.* *Linn.* *Species of Mustard.*

Linn. Syst. Tetradynamia Siliquosa.

The seed.

Vernacular. *Rajika*, *Sarshapa*, *Tuverica*, Sans. *Surson, Rai, Kalisursoon, Tooria, Bunga-surson*, Hind. and Dec. *Raee, Bun-raee, Bul-raee, Shwet-raee, Sada-raee, Jooni-raee, Sunchi-sursoon*, Beng. *Suray-bij*, Sindh. *Kadaghoo*, Tam. *Avaloo*, Tel. *Gan-aba, Rata-aba*, Cey. *Khurdal, Kubbr*, Arab. *Sirshuf*, Pers.

Habitat. The temperate zones : widely cultivated.

Remarks. The νάπυ of the Greeks. In India are cultivated chiefly *S. ramosa*, *Raee* ; *S. glauca*, *Toria* ; *S. dichotoma*, *Kalie-surson* ; and *S. juncea*, *Bunga-surson*, the *Khardel* or *Kubbr* of Arabia and Egypt. See also "Condiments and Spices," and "Oil-seeds."

N. O. 16. CAPPARIDACEÆ. *CAPPARIDS.*

Cratæva religiosa. *Ham.* *Holy Garlick Pear.*

Linn. Syst. Polyandria Monogynia.

The leaf.

Vernacular. *Varvunna, Varāna, Vilwa*, Sans. *Bel*, Hind. and Beng. *Velvie*, Tam. *Bilva, Tella Ulimidi*, Tel. *Lunu-warna*, Cey. The leaves, *Bel-ke-pat*, Vulg.

Habitat. India.

Remarks. First noticed by Van Rheede. Dalzell says *C. Nurvala* (Ham.) is the true *Varvunna* sacred to Siva. To Siva may here be mentioned are also dedicated the *Jonesia Asoca, Cæsalpinia pulcherrima (*Swartz), *Jasminum undulatum* (Linn.), *Guettardia speciosa, Calophyllum inophyllum, Origanum Marjorana, Ixora Bandhuca, Artemisia austriaca, Nerium odorum*, and *Chrysanthemum indicum ;* the eight last being also dedicated to Vishnoo.

N. O. 18. FLACOURTIACEÆ. *BIXADS.*

Flacourtia cataphracta. *Rox. Many-spined Flacourtia.*

Linn. Syst. Diœcia Polyandria.

The leaf.

Vernacular. *Talisha*, Sans. *Talisputrie*, Hind. and Dec. *Panayala*, Beng. *Juggum*, Sawunt Warree. *Talishapatrie*, Mal. and Tam. *Talishapatrie*, Tel.

Habitat. Nepaul, Behar, Bombay in gardens.

Remarks. Paniala is also the Malabar name of *Eriodendron anfractuosum* ; and *Panawla* the Bombay name of *F. sapida.*

Flacourtia sapida. *W. Esculent Flacourtia.*

Linn. Syst. Diœcia Polyandria.

Vernacular. *Swadoo-kuntuka*, Sans. *Panawla, Bowchee*, By. *Pudda-kanrew, Nakka-neredu, Pedda-kana-regu*, Tel.

Habitat. Hindoostan.

Remarks. Bowchee is also the Ahmedabad name of a cereal not yet identified in the Museum Catalogue. See "Agricultural Produce—Cereals," and "Fruits and Vegetables."

N. O. 19. CISTACEÆ. *ROCK ROSES.*

Cochlospermum Gossypium. *De C. Golden Silk-Cotton Tree.*

Linn. Syst. Polyandria Monogynia.

The gum.

Vernacular. *Tanakoo-marum*, Tam. *Conda-gongu Chettu*, Tel. *Tschema-pungee marum*, Mal. *Ela-imbul*, Cey. The gum, *Kutteera*, Hind.

Habitat. Travancore, Coromandel, Hurdwar, Arracan.

Remarks. The gum is one sort of false Tragacanth of commerce. See "Gums and Resins," and "Woods."

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N. O. 20. VIOLACEÆ. *VIOLET-WORTS.*

Viola odorata. *W. March Violet.*

Linn. Syst. Pentandria Monogynia.

The dry flower.

Vernacular. *Behussej*, Arab. *Banafsha*, Pers. and By.

Habitat. The north temperate zone.

Remarks. Probably the λευκοίον τὸ μέλαν of Hippocrates and ἴον πορφυροῦν of Dioscorides. Homer mentions "sweet violets" among the flowers of the island of Calypso.

N. O. 25. TAMARICACEÆ. *TAMARISKS.*

Tamarix Furas.

Tamarix indica. *Rox. v.* **gallica.** *Linn. Indian Tamarisk.*

Tamarix dioica. *Rox.*

Linn. Syst. Pentandria Trigynia.

The galls,—Galls.

Vernacular. The trees, **T. indica,** *Jhaoo*, Hind. *Pakke*, Tel. *Toorfa*, Arab. *Guz*, Pers. **T. Furas**, *Asul*, Arab. and Hind. The galls, **T. indica**, *Burreemue*, Hind. *Sumrut-ul-toorfa*, Arab. **T. Furas**, *Chotee-mue*, Hind. *Sumrut-ul-asul*, Arab.

Habitat. The Mediterranean countries, Arabia, Sindh, Rohilcund.

Remarks. Sugar (*Guzunjabin*, Pers.) is produced on *T. indica* (the μυρίκη of Homer and Hippocrates) by the puncture of the *Coccus maniparus.* This is often called Arabian manna, to distinguish it from *Toorunjabin*, Persian manna (the Liquid Manna of old writers!) *Shirkist*, Khorassan manna, and Sicilian manna. *Shirkist* is often generically applied to all these species of manna. *Guzunjabin* has been considered the manna of the Israelites; but any reference of the article with which they were miraculously supplied in the desert of Sin to a botanical source must be unsatisfactory in the present state of science. The word *manna* from *manhu*, signifying "*What is it!?*" showing the surprise and ignorance of the Jews regarding the substance, is all but conclusive against its having been *Guznujabin,* when we consider how long in their bondage they had been settled on the high-road of the to-and-fro trade between Egypt, the copper-mines of Sinai, and the East generally. *Guzunjabin* moreover does not in the least answer the Mosaic description of manna, which "was like coriander seed--white." It is true that some would translate the expression "Manhu!"—"This is manna!" But from the context it is clear that when science is sufficiently advanced to rationalize profitably on this miracle, it will be the meteorologist and not the botanist who must account for it. The Jews are so jealous of this miracle that they have a curse against any who shall attempt to explain it. Pliny mentions the galls of the *Indiān Tamarisk.* The famous shafts of *Isfendiyar* is formed from its wood. A species of *Tamarisk*, probably the Indian, was sacred to Osiris amongst the ancient Egyptians, and to Apollo amongst the Greeks. See also "Sugars," "Tans," and "Woods."

N. O. 30. MALVACEÆ. *MALLOW-WORTS.*

Malva sylvestris. *Linn. Common Mallow.*

Linn. Syst. Monadelphia Polyandria.

The carpel and seed.

Vernacular. *Towdrie*, Pers. *Khabazee*, *Khitmee*, Arab.

Habitat The north temperate zone.

Remarks. Said to be the *μαλάχη χερσαῖα* of Dioscorides.

N. O. 31. STERCULIACEÆ. *STERCULIADS.*

Eriodendron anfractuosum. *De C. White Silk-Cotton Tree.*

Linn. Syst. Monadelphia Polyandria.

The gum.

Vernacular. *Huttian*, Hind. *Shwet-shimool*, Beng. *Suffaid-sembul*, *Shameula*, Dec. *Pania*, *Paniala*, Mal. *Elavum*, Tam. *Poor*, Tel.

Habitat. Khandeish, Travancore, Coromandel.

Remarks. See also "Gums and Resins," and "Woods."

Helicteres Isora. *W. et A. East Indian Screw Tree.*

Linn. Syst. Monadelphia Decandria.

The follicles.

Vernacular. *Avurtunnie*, Sans. *Merowrie*, Hind. *Muradsing*, *Kewun*, *Kewannie*, *Dhamnee*, Dec. *Sayamali*, *Kavanchi*, Tel. *Leeniyagaha*, Cey. *Kisht-bur-Kisht*, Pers.

Habitat. Concan and Deccan.

Salmalia malabarica. *S. et E. Red Silk-Cotton Tree.*

Linn. Syst. Monadelphia Polyandria.

Vernacular. *Salmali*, Sans. *Ruckta-Sembul*, Hind. *Saur*, Dec. *Moul-elavoo*, Mal. *Elavum marum*, Tam. *Buraga*, Tel. *Mahatelambu*, Cey.

Habitat. Concans, Malabar, Courtallum.

Remarks. The *Mochurus* and the *Suffaid mooslie* of the Bazars are said to be respectively the gum and rootlets of this tree. The *Mochurrus* of Bombay is certainly not the gum of this tree, but a kind of gall produced on the *Areca Catechu.* The *Moringa pterygosperma* (Gært.) yields a gum, however, which is exactly like the *Mojrus* received from Umritseer. *Suffaid mooslie* can never be obtained from this tree, and I have ascertained that it is not derived from any species of *Curculigo* although *Curculigo brevifolia* goes by the name of *Mooslie,* and its roots are used in medicine in this Presidency. The root stalk of *C. brevifolia* is, however, exactly like the *Kala mooslie* of Bombay druggists which is attributed to *C. nigra ? Mooslie sheah* is obtained, according to Royle, from *Murdania scapiflora,* and Ainslie's description of it applies to *Suffaid mooslie ;* and notwithstanding that he says it comes from *C. orchioides,* may not *Murdania scapiflora* be the real plant, or at least some species of *Tradescantia ?* See "Woods."

Sterculia urens. *Rox.*

Linn. Syst. Monœcia Monadelphia.

The gum.

Vernacular. *Kavalee,* By. *Vellay bootali,* Tam. *Kevalee,* Tel.

Habitat. Concans, Courtallum.

Remarks. Under the name of *Kutira-gond* the gum of this tree is included, and it is one sort of false Tragacanth of commerce. See also "Gums and Resins," and "Woods."

N. O. 34. DIPTEROCARPACEÆ. *DIPTERADS.*

Dipterocarpus turbinatus. *Rox.*

Linn. Syst. Polyandria Monogynia.

The oleo-resin,—Wood-oil.

Vernacular. The tree, *Hora-gaha,* Cey. The oleo-resin—*Gurjun-tel,* India. *Dhoonatil,* Cey.

Habitat. India, within and beyond the Ganges.

Remarks. See also "Gums and Resins," and "Woods."

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Ægle Marmelos. *C. de S. Thorny Bengal Quince.*

Linn. Syst. Polyandria Monogynia.

The fruit.

Vernacular. *Vilva, Shreephula,* Sans. *Bael, Shreephula,* Hind. *Corvalum,* Mal. *Vilva-marum,* Tam. *Maredoo, Bilvamu, Maluramu,* Tel. *Beli,* Cey.

Habitat. East Indies.

Remarks. First described by Bontius. The ternate leaf of this tree is a symbol of the Hindoo triad. See "Woods."

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Citrus Aurantium. *Risso. Sweet Orange.*

Linn. Syst. Polyadelphia Polyandria.

The rind.

Vernacular. *Narunga,* Sans. *Naringee,* Hind. *Kumla neeboo,* Beng. *Kitchlee,* Tam. *Kichili, Kittali kaya,* Tel. *Dodan,* Cey. *Narunj,* Arab. *Jarok-manis,* Malaya.

Habitat. China ? Cultivated in India, South Europe, Azores, and West Indies.

Remarks. Ebn Baithar appears to have first noticed it. See "Fruits and Vegetables."

Citrus Bergamia. *Risso. Bergamot Citrus.*

Linn. Syst. Polyadelphia Polyandria.

The fruit, lime.

Vernacular. *Nimbooka,* Sans. *Nemboo,* Hind. *Neboo,* Beng. *Lemboo ?* Dec. *Eroomitchee-narracum,* Mal. *Elemitchum,* Tam. *Nemma pandoo, Gajanimma,* Tel. *Dehi,* Cey.

Habitat. South Europe, India.

Remarks. The *C. acida* of Rox. See "Fruits and Vegetables," and "Condiments and Spices."

Citrus medica. *Risso. Citron.*

Linn. Syst. Polyadelphia Polyandria.

The rind.

Vernacular. *Begapoora,* Sans. *Leemoo,* Hind. *Beg-poorā,* Beng. *Lungumu, Bijapuramu, Madiphulla chettu, Dabba chettu,* Tel. *Sidaran,* Cey. *Utruj, Ooturuj,* Arab. *Toorunj,* Pers. *Jarok,* Malaya.

Habitat. Asia. In ancient times it derived its name from Media, and is now found wild along the base of the Himalayas. Pliny says that in his day it would grow nowhere but in Media..

Remarks. The μῆλον μηδικὸν of Theophrastus, and *Malum-citreum* of Pliny. It has nothing to do, as supposed by some, with the *Citrus* of the Mountains of Mauritania, the wood of which was so extravagantly prized by the Romans for tables. This is generally supposed to have been the *Callitris quadrivalvis* (Vent.) or *Jointed Arbor Vitæ,* the Conifer which yields the resin Sandarach.

According as the markings of the wood were striped, spotted, or speckled, citrus tables were called "tigrinæ," "pantherinæ," and "apiatæ." *Citrus* of the colour of honey and wine ("mulsum") was most prized. Cicero was a great fancier of citrus tables. He gave £9,000 for one, first mentions them, and one of his charges in the oration against Verres is "you stole a citrus table of distinguished age

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and beauty from Diodorus of Lilybæum!" Pliny says the Roman women used to turn these citrus tables on their liege lords whenever the latter complained of their expenditure on pearls. See also "Fruits and Vegetables."

Feronia elephantum. *C. de S.* *Indian Elephant Apple.*

Linn. Syst. Decandria Monogynia.

The fruit.

Vernacular. *Kupittha*, *Bhu-kupittham*, Sans. *Kuth-bel*, *Booienkavite*, *Kawtha*, *Koeet*, Hind. *Kuth-bel*, Beng, *Kaweet*, Dec. *Velanga*, *Pitavoola*, *Vullam*, *Nilavoola*, *Cootivella*, Tam. *Nelavellaga*, *Yelanga*, Tel. *Dewul*, Cey.

Habitat India.

Remarks. See also "Gums and Resins," and "Woods."

N. O. 42. GUTTIFERÆ. *GUTTIFERS.*

Calophyllum inophyllum. *Linn.* *Sweet-scented Calophyllum.*

Linn. Syst. Polyandria Monogynia.

The seeds.

Vernacular. *Poonaga*? Sans. *Sultan champa*, *Surpunka*, Hind. *Surpunka*, *Oondee*, Dec. *Poona*, Mal. *Pinnay*, Tam. *Poonagamu*, Tel. *Teldomba*, Cey.

Habitat. Malabar, Deccan.

Remarks. First described by Van Rheede and Flacourt. *The Alexandrian Laurel* is *Ruscus racemosus*, and not this plant, as supposed in India. *Poonagamu* is also the Telinga name of *Rottlera tinctoria*, N. O. 195. See also "Oils and Oil-seeds."

Calysaccion longifolium. *W.*

Linn. Syst. Diœcia Polyandria.

The flower bud.

Vernacular. *Woondy*, *Poonag*, *Suringee*, *Gordeoondy*, By. *Surraponna*, Tel. *Tharrabee*? Pegu. The flower buds,—*Nagkesur*, Vulg.

Habitat. The Concans.

Remarks. Dalzell says these buds were sent to the great Exhibition (1851) under the erroneous name of *Nagkesur*. This is a name of *Mesua ferrea* (see below), but nevertheless is continually applied to the flower buds of the *Poonag*. They may be mistaken for "Cloves" and "Cassia flowers." *Surra ponna* is also the Telinga name of *Barringtonia speciosa*.

Garcinia Mangostana. *W. Common Mangosteen.*

Linn. Syst. Dodecandria Monogynia.

rind.

Vernacular. *Mungeestun*, By. *Manggusta*, Malaya. *Manggis*, Java, Bali, and Sunda. *Manggos*, Lampung. *Manggisi*, Bugis.

Habitat. Malaya.

Remarks. First described by Garcias.

Garcinia purpurea. *Rox.*

Linn. Syst. Dodecandria Monogynia.

The concrete oil of the seeds.

Vernacular. *Kokum*, By. *Brindao*, Goa.

Habitat. Ravines of Concan.

Remarks. First described by Van Rheede. Is the same plant as *G. cochin-chinensis*, De C. See also "Condiments and Spices" and "Oils and Oil-seeds."

Hebradendron cambogioides. *Graham.*

Linn. Syst. Monœcia Monadelphia.

The gum resin, Gamboge.

Vernacular. Gamboge, *Rawund-cheenee-seerah*, Guz. *Mukki*, Tam. *Gokatu*, *Kana-goraka*, Cey. *Assara-rewund*, Arab. and Pers. *Rong*. Malaya.

Habitat. Siam, Cambogia; Ceylon about Buddhist temples.

Remarks. The Gamboge of commerce comes from Siam. The tree has never been yet seen by a scientific observer in Siam, but as the Siam Gamboge is identical in its character with that obtained from the *H. cambogioides* in Ceylon, and as the tree in Ceylon has probably been introduced by the Buddhist priests, and Buddhism being supposed to have passed from Siam to Ceylon, very little doubt can remain of Siam Gamboge being the product of *H. cambogioides*. See also "Dyes and Colours."

Mesua ferrea. *Linn.*

Linn. Syst Polyandria Monogynia.

The dry flower.

Vernacular. *Naga-cesara*, Sans. *Nagkesur*, Beng. *Nag-chumpa*, South Concan. *Belluta-champagam*, Mal. *Na-gaha*, Cey.

Habitat. Cultivated in Bengal, Malabar, Courtallam, Burmah, Java.

Remarks. First noticed by Van Rheede. According to Sir W. Jones, the five arrows of Kamadeva, the Indian Cupid, are tipped respectively with the *M. ferrea*, *Pandanus odoratissimus*, *Mangifera indica*, *Michelia Champaca*, and *Pavonia odorata*. Wallich found the *M. ferrea*, with

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Jonesia Asoca and the gorgeous *Amherstia nobilis*, growing about the Buddhist temples in Burmah.

N. O. 48. SAPINDACEÆ. *SOAPWORTS.*

Sapindus emarginatus. *Vohl. Emarginated Soap Berry.*

Linn. Syst. Octandria Monogynia.

The fruit.

Vernacular. *Rishta*, *Arishta*, *Phænile*, Sans. *Rita*, Hind. *Buroreetha*, Beng. *Reteh*, Dec. *Rarak*, Mal. *Poovandie-cottay*, *Manaypoongunkai*, *Ponnanga*, Tam. *Kunkoodoo*, *Koomuttieghenzaloo*, Tel. *Gas-penela*, Cey.

Habitat. India.

Remarks. *Arishto* is the name of the *Neem* in Hindoostan. See also "Miscellaneous" Class.

N. O. 50. MELIACEÆ. *MELIADS.*

Azadirachta indica. *A. de Juss. Ash-leaved Bead Tree.*

Linn. Syst. Monadelphia Decandria.

The bark, leaf, and expressed oil of the pericarp of the fresh fruit.

Vernacular. *Nimba*, Sans. *Nim*, *Arishto*, Hind. *Neem*, Dec. *Bewa*, Can. *Aria-bepou*, Mal. *Veypam*, Tam. *Vepa*, *Vaympa*, Tel. *Tel-kohomba*, Cey. *Thembau-kamakah*, Pegu.

Habitat. India.

Remarks. First described by Breynius. Toddy is prepared from the juice of the young tree (Ainslie). It is sacred to *Mariama*. The generic name is derived from *Azad-i-duruckht* (*Azadzracht* of Avicenna), the Persian for the *Melia Azederach* (Linn.) the *Dek*, *Common Bead Tree* or *Persian Lilac* of Anglo-Indians; and the *Melia sempervirens*, W. or *Bau*, the *Bukayan* of the Deccan and Hindoostan, and *West Indian Lilac* or *Evergreen Bead Tree* of English writers. The true *Persian Lilac* is *Syringa persica*. See also "Oils and Oil-seeds," and "Woods."

N. O. 52. CEDRELACEÆ. *CEDRELADS.*

Soymida febrifuga. *Juss. Febrifuge Soymida.*

Linn. Syst. Monadelphia Decandria.

The bark.

Vernacular. *Rohuna*, *Patranga*, Sans. *Rohun*, Hind. *Rouen*, *Ruhin*, Dec. *Swamy*, Can. *Woondmarum*, *Shemmarum*, Tam. *Soimida*, *Sumi*, Tel.

Habitat. Goozerat? Deccan.

Remarks. See "Woods."

N. O. 55. LINACEÆ. *FLAXWORTS.*

Linum usitatissimum. *Linn. Common Flax.*

Linn. Syst. Pentandria Pentagynia.

The seed.

Vernacular. *Atasi, Matusee, Ooma,* Sans. *Ulsee, Tisi, Musina, Musnee,* Hind. *Jowus,* Dec. *Aliveree, Alle-seroo-sanul,* Tam. *Buzruc, Kettan,* Arab. *Kutan,* Pers.

Habitat. Egypt. Cultivated widely in Europe and India.

Remarks. First mentioned Exod. ix. 31. It is remarkable that *Hemp* and *Flax,* extensively cultivated in India, are not so, as in Europe, for their fibres; but for the narcotic resinous extract in one case, and for the seed in the other. The Arabic for cotton is *Kŏton.* See also "Oils and Oil-seeds."

N. O. 62. ZYGOPHYLLACEÆ. *BEAN CAPERS.*

Balanites ægyptiaca. *Delile.*

Linn. Syst. Decandria Monogynia.

The fruit.

Vernacular. *Hingen,* Beng. *Hingenbet,* By. *Hudgah,* Sholapore. *Nunjoond,* Tam. *Gara,* Tel. *Hilelge, Haledsch,* Arab. In Egypt, *Egleeg* (*Arap.*); by the negroes *Soum,* and the fruit commonly *Lalob.*

Habitat. Egypt. Found planted (?) in different parts of India.

Remarks. There can be no doubt that this is the *Persea* of the ancient Egyptians, sacred to Athor, as suggested by Delile. Royle objects to the reference, as the fruit of the Persea is described (by Pliny) as being very agreable, whereas the pulp of the *Egleeg* is exceedingly bitter and nauseous. Pliny, b. xiii. c. 17, in truth speaks of the *Persea* as "particularly inviting for its luscious sweetness" (Bostock and Riley), but it is clear that he here confounds (as Dioscorides before him would also appear to have done) the Persea with the *Peach* or *Persica,* for in b. xv. c. 13, writing of the *Persica* or *Peach,* he states, "it is quite untrue that the peach which grows in Persia is poisonous, and produces dreadful tortures, or that the kings of that country from motives of revenge had it transplanted to Egypt, where, through the nature of the soil, it lost all its evil properties; for we find that it is of the *Persea* that the more careful writers have stated all this." The *Egleeg* is the *Myrobalanus chebulus* of Wesling, but it is quite distinct from the true *Chebulic myrobalan* catalogued below. See "Miscellaneous" Class.

Tribulus terrestris. *Linn. Small Caltrops.*

Linn. Syst. Decandria Monogynia.

The fruit.

Vernacular. *Soodumostra*, Sans. *Gokhoor*, Beng. *Gokoroo*, Dec. *Neringil*, Mal. *Neringee*, Tam. *Palleroo*, Tel. *Sembu-nerenchi* ? Cey. *Kussuke-sagheer*. Arab.

Habitat. The Mediterranean countries, and India within and beyond the Ganges.

Remarks. The τρίβολος of Theophrastus. The *Tribulus* of Pliny is the *Trapa natans* or *European Water Chesnut* (*Nux aquatica* and *Saligot* of old Herbals) of the same genus as the *Singhara* of India; but he includes the *small Caltrops* as a variety.

N. O. 63. RUTACEÆ. *RUEWORTS.*

Peganum Harmala. *W.* *Syrian Rue.*

Linn. Syst. Dodecandria Monogynia.

The seed.

Vernacular. *Lahooree Hoormul*, Hind. *Hurmaro*, Dec.

Habitat. Hindoostan, Deccan, the Mediterranean Countries.

Remarks. Said by Royle to be the μῶλυ of Dioscorides; but he must certainly be wrong, as Dioscorides describes *Moly* as having leaves like grass and a bulbous root. Theophrastus gives a like description, and both probably refer to the *Allium nigrum* (Linn.) which may also be the *Moly* of Homer, generally considered a fabulous plant.

Ruta angustifolia. *W.* *Narrow-leaved Rue.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Sudab*, India.

Habitat. Africa. Cultivated in India.

Remarks. Rolye states that Arabic authors give *Fekhun* and *Ufyhanin* as *Yonanee* synonymes, evidently corruptions of πήγανον. The πήγανον of Hippocrates is the *Ruta graveolens*, *Common* or *Garden Rue.*

N. O. 64. XANTHOXYLACEÆ. *XANTHOXYLS.*

Xanthoxylon hastile. *Indian Tooth-ache Tree.*

Linn. Syst. Diœcia Pentandria.

The seed.

Vernacular. *Tejbul*, Hind.

Habitat. India.

Remarks. The *Faghurch* it is said of Avicenna. The term *Tejbul* is also applied loosely to many drugs.

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N. O. 68. CELASTRACEÆ. *SPINDLE TREES.*

Celastrus montanus. *Rox.*

Celastrus paniculatus. *W.*

Linn. Syst. Pentandria Monogynia.

The seed.

Vernacular. *Malkunganee,* Hind. and Deccan. *Valuluvy, Pedda-chintoo,* Tam. *Bavungie,* Tel.

Habitat. Concans, Neilgherries, Vizagapatam, Dheyra Dhoon.

Remarks. Dalzell states in the Deccan *Malkangonee* is the name of the first, and *Kangoonee* of the second plant. *Danti* and *Gaja-chinni* are Telinga names of *C. montanus,* and *Erikata, Gundu meda,* and *Maneru* of *C. paniculatus.* The order derives its name of *Spindle Trees* from the fact that, from time immemorial, the Hindoos have made their *spindles* from a shrub of the family, a species of *Euonymus.* With *Euonymus tingens* the Hindoos also mark the *tika* on their foreheads.

N. O. 70. RHAMNACEÆ. *RHAMNADS.*

Rhamnus wightii. *W. et A.*

Linn. Syst. Pentandria Monogynia.

The bark.

Vernacular. *Rugt-rorar,* By.

Habitat. Western Ghats, the highest hills of the Northern portion.

Remarks. *Rukt-roora* is the name of *Polygonum glabrum* (Will.) and *Maba nigrescens* (Dalz.) It would also appear to be applied to *Soymida febrifuga* in Central India.

N. O. 71. ANACARDIACEÆ. *ANACARDS or TEREBINTHS.*

Mangifera indica. *Linn.* *Common Mango.*

Linn. Syst. Polygamia Monœcia.

The kernel.

Varnacular. *Amra,* Sans. *Am,* Hind., Beng., Dec. *Mava,* Mal. *Mam-marum,* Tam. *Makandamu, Mavi, Mamadichitoo,* Tel. *Etamba* (wild), *Amba* (cultivated), Cey. *Mangga* (wild), Sunda. *Mampalam,* Malaya. *Palam,* Java. *Kapalam,* Lampung. The Archipelagic names of the cultivated Mango are all, according to Crawfurd, derived from the Sanscrit "Maha-pahala." Through the agency of Europeans, however, the corrupted form of the Sunda name for the wild Mango is becoming prevalent throughout the East from Madagascar to the Philippines; and has extended to America. The Mangoes of Mazagon were once celebrated.

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Habitat. East Indies. Cultivated near Muscat (?) and throughout the East; the cultivated varieties all appearing to have originated in India proper.

Remarks. See "Gums and Resins," "Fruits and Vegetables," and "Woods."

Pistacia Lentiscus. *Linn.* *Mastic Tree.*

Linn. Syst. Diœcia Pentandria.

The resin,—Mastic.

Vernacular. *Roomie mastike, Koondur-roomee,* Hind. *Uluk baghdanee, Musteka,* Arab. *Kinneh, Kinnoli,* Pers.

Habitat. The Mediterranean countries.

Remarks. The σχῖνος of the Greeks, The resin gives its name to the process of *mastication.* *P. Khinjuk* and *P. cabulica* yield Mastic in Sindh *Satureja hortensis* is the *Herb-Mastick.* See "Gums and Resins."

Pistacia vera. *Linn.* *Pistachio.*

Linn. Syst. Diœcia Pentandria.

The gall.

Vernacular. *Gool-i-pista,* Pers. and By.

Habitat. Persia.

Remarks. The "almonds" of Gen. xliii. v. 11 have been thought to be *Pistachio Nuts.* See also "Tans," and "Fruits and Vegetables."

Rhus coriaria. *W.* *Elm-leaved Sumach.*

Linn. Syst. Pentandria Trigynia.

The fruit.

Vernacular. *Mutchlee,* Hind. *Shumak, Hool, Tumtum,* Arab. *Mahee,* Persia.

Habitat. Asia Minor and Persia.

Remarks. *The* ῥοῦς ἐρυθρὴ of Hippocrates according to Sprengel. Mentioned by Pliny. See also "Tans."

Rhus Kakrasinghee. *Royle.*

Linn. Syst. Pentandria Trigynia.

The gall.

Vernacular. *Kakrasingee,* Hind. By.

Habitat. Sub-alpine Himalayas.

Remarks. See also "Tans."

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Semecarpus Anacardium. *Linn.* *Marking Nut.*

Linn. Syst. Polygamia Diœcia.

The nut.

Vernacular. *Nrooskura, Bullatakee,* Sans. *Bhela, Belawina, Bhelaman, Bhelawan,* Hind. *Gheru,* Can. *Kampira,* Mal. *Shayngcottay, Shayrangcottay,* Tam. *Nellajidi, Jeedighenzadoo, Bhallataki, Bhallatamu,* Tel. *Kiri-badulla,* Cey. *Chai-bin,* Pegu.

Habitat. India.

Remarks. The ξανθοβάλανον of Galen. See " Fruits and Vegetables." "Oil and Oil-seeds," and " Miscellaneous Class," and "Woods."

N. O. 72. AMYRIDACEÆ. *AMYRIDS.*

Balsamodendron Myrrha. *Nees ab Esen.*

Linn. Syst. Octandria Monogynia.

The gum-resin,—Myrrh.

Vernacular. *Bola, Vola,* Sans. *Bol, Heera-bol,* Hind. and By. *Valatipolam,* Tam. *Morr,* Arab. *Hoboli* (the gum-resin), *Kerobeta* (the plant), Abyssinia.

Habitat. Gison on the borders of Arabia Felix, and the Troglodyte country.

Remarks. First mentioned Gen. xxxvii. v. 25. under the name of *Mur* from its bitterness. The Greeks called it Σμύρνα and Μύῤῥα (Æolic), and Dioscorides observes that the Troglodytic was esteemed the best. (Pereira.) Mr. Vaughan distinctly states that Myrrh is produced in Arabia, and that in the Soumali country besides the true Myrrh, a kind of which the Arabic name is *Baisabol,* and the Soumali *Hebbakhade,* is obtained. In Bombay inferior Myrrh is termed *Baisabol.* Pliny states the Myrrh which distils of itself was in his day called " Stacte." Amongst the adulterations of Myrrh also, he mentions "Indian Myrrh," which was probably "Bdellium" or "*Googul,*" that substance being to this day fraudulently mixed with Myrrh in Bombay. B. *Myrrha* (N. ab E.) is considered by Lindley identical with the *Amyris Kataf* of Forskäl. Fraas makes *A. Kafal* (Fors.), the myrrh plant. A fern *Aneimia tomentosa* smells of Myrrh. See " Gums and Resins."

Balsamodendron Opobalsamum. *Kunth.*

Balsamodendron gileadense. *Kunth.*

Linn. Syst. Octandria Monogynia.

The oleo-resin, Balsam, Balm, Balm of Gilead, Balsam of Mecca.

Vernacular. The oleo-resin, *Ood-i-balessan,* By. *Akooyeelasemoonroomee,* Arab. *Rooghen-balsam,* Pers. *Balessan,* Egypt.

Habitat. Arabia.

Remarks. The *Balm* of Scripture. The βάλσαμον of Theophrastus and Dioscorides, called also *Opobalsamum.* The wood *Xylobalsamum*, and fruit *Carpobalsamum* (a term sometimes by mistake applied to Cloves in old books), are also described by the ancients, and sold to the present day in Bombay. Pliny, Diodorus, and ancient authors generally, considered Judæa the native country solely of the balm trees, but we now know that they are found in Arabia. They would appear to have been confined to gardens in Judæa, and the vineyards of En-geddi are supposed to have been balsam groves. Diodorus gives En-geddi and the Dead Sea shore as the habitat of the trees Calmet states that the Arabians have a tradition that the Queen of Sheba introduced them there on her visit to Solomon. They were an offering which must have been prized, for centuries later Pliny informs us that the Emperors Vespasian and Titus had the shrubs exhibited in Rome, and that the Romans were in the habit of carrying them in their triumphal processions; and also that Alexander the Great, when in Judæa, thought it a fair midsummer-day's work to fill a concha (from ·0412 to ·1238 of a pint) with Opobalsamum. Calmet derives the word *Balsam* from *Baal-shemen,—Royal Oil.* The oleo-resin of *Abies balsamea,* the *Canada Balsam Fir*, has been substituted in commerce for true *Balm of Gilead,* and the little labiate of the Canaries *Cedronella triphylla* (Monch), goes by that name, and *Melissa officinalis* by that of *Common Balm* vulgarly. Opobalsamum was extravagantly prized as a panacea by the ancients, and the British Museum possesses a stamp of Herophilus the founder of the Alexandrian School for his opobalsamum salve. It represents a figure of Roma seated, with a head in the left hand, all on Sard. See also "Gums and Resins."

Balsamodendron roxburghii. *Arn.*

Linn. Syst. Octandria Monogynia.

The gum resin,—Indian Bdellium.

Vernacular. *Googul*, Beng. and By. *Kookul*, Tam. *Mukul*, Arabia and Persia. *Roghen toorb, Aflatoon*, Pers. *Moolie-ke-teil*—a *Hindee* synonyme in the *Ulfaz Udwiyeh.* In the same work *Budleeyoon* is given as the Syrian name.

Habitat. Northern India, Silhet, Assam, Sindh, Deccan?

Remarks. Generally thought to be the *Bdellium* (*Bdolach*) of Gen. ii. v. 12, and Num. xi. v. 17, and the βδέλλιον and μαδελκὸν vel μαδαλκὸν of Dioscorides. Lassen however has suggested that *Bdolach* means Musk and not Bdellium, and it is difficult to resist his conclusion based as it is not only on the description given of *Bdolach* in Numbers, but also on its affinity to the Sanscrit word *Madalaka*, which is thought to mean Musk. In Genesis the word occurs in the passage "there (that is in the land of Havilath, compassed by the river Pishon) is bdellium and the onyx stone." The Pishon being considered by commentators to be the Indus, the text seems to far to support the view of *Googul* being the ancient

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Bdellium or Madalcon. But the musk region of the Himalayas may be as appropriately described as compassed by the Indus, as Sindh and the Punjab. The association of *Bdolach* with gold points also to Thibet. Nothing is known of the locality of Havilath independently of the Pishon. So much for the positive argument for *Bdolach* being Musk. With regard to the negative :—neither the descriptions of the Bible, Dioscorides, nor Pliny in the least resemble *Googul*, while all indicate Musk. Pliny gives Bactriana as the country of Bdellium ; but says it also comes from Arabia and Media, the Median being called "peraticum" (πέρατα γῆς) or "from the uttermost parts of the earth." The musk deer is not only found in the Himalayas but in Siberia, Tonguin, and Cochin China, and a substance analogous to Musk (Hyraceum ?) is brought to Bombay by Zanzibar merchants. *Googul*, however, is found not only in Northern India, but in Arabia ; nevertheless, I am of opinion that Pliny never meant *Googul* by Bdellium, and that probably his "Indian Myrrh" and "Scordastum" refer to the modern Bdellium of India. It is strange that although familiar with Castoreum, no ancient writers mention Musk unequivocally ; Ætius (A.D. 550), being the first (Pereira) who describes it. The etymology of musk (μόσχος) is not determined. The connexion of the "onyx stone" with "bedellium" in Genesis (ch. ii. v. 11) renders it necessary to remark that the word "onyx" is used in another sense in Scripture, according to Calmet, than that of the stone *Shohem*. Thus the word *Shecheleth* is translated by the LXX. as "onyx" (ὄνυξ, a nail) meaning the celebrated "odoriferous shell" of the ancients ; although others understand by it *Ladanum* (the balsam of *Cistus creticus*, W. ; *C. ladaniferus*, W. ; &c.) and *Bdellium*. Pliny says of Bactrian Bdellium that it "is shining and dry and covered with numerous white spots resembling the finger nails." And such Bdellium would appear to have been the βδέλλη ὄνυξ of Damocritus, an obscure medical writer quoted by Saracenus in his *Scholia in Dioscoridis*, and of Galen as quoted by Salmasius in his *Plinianæ Exercitationes*. Salmasius states that from the Greek words μαδελκὸν, μαλαχὴ, the Arab *Molochil (Mukul)* is derived ; which, if true, would lessen the force of Lassen's arguments in favour of the Bdellium of the Bible being Musk, if they were etymological only. Bochart asserts that the Bdolach of the Bible is neither a stone nor bdellium, but a shell, genus *Unio*. Hooker has called the Indian Bdellium tree *B. Mokul*, but I have not the means to determine satisfactorily whether this is a new plant, or a new name simply of the long-known tree placed at the head of this article. Drury states that *B. Mokul* is distinct from *B. roxburghii*. Stocks states that, in Sindh, *B. pubescens* also yields *Googul*. In the Himalayas the *Juniperus religiosa* (Royle), and in the Bhore Ghât *Canarium strictum* (Rox.) are called *Googul*. The *Googoola* of the Telingoos is *Boswellia glabra* (W. et A.) Of the other kinds of modern Bdellium, "African" is obtained from *B. africanum*, the *Nioutout* of Senegambia, and *Cerardia furcata* (Compositæ) ; "Egyptian" from *Hyphæne thebaica* (Palmæ) ; and "Sicilian" from "*Daucus gummifer*" (Umbelliferæ). See also "Gums and Resins."

Boswellia papyrifera. *Hoch.*
Boswellia ———————— ?

Linn. Syst. Decandria Monogynia.

The gum resin,—Olibanum (*quasi* Oleum Libani), Frankincense.

Vernacular, *Sallaci*, *Shullokee*, *Cunduru*, Sans. *Salai*, *Gundabarosa*, *Dhoop*, *Esus*, *Luban*, Hind. *Koondur-zuchir*, Guz. *Awulgoondur*, Dec. *Paranghi-sambrani*, Tam. *Luban*, *Cundur*, *Bistuj*, Arab. *Luban*, *Koonder*, Pers. *Labaniya*, Syr.

Habitat. Arabia and the Troglodyte country.

Remarks. The *Lebonah* of the Bible (Ex. xxx. 34), the λίβανος, λιβανωτὸς of the Greeks. Pliny informs us that "there is no country in the world that produces frankincense except Arabia," and of the great interest taken in Olibanum, and the thuriferous or libanophorous region by the ancients. King Juba dedicated a work to Caius Cæsar on the subject. King Antigonus had a branch of the tree sent to him, and the mighty Emperor Augustus sent an army of 10,000 Romans under Ælius Gallus into Arabia expressly in search of it. But the tree and the precise locality of its habitat continued unknown. Linnæus referred Olibanum to an unascertained Juniper. His followers boldly specified the *Juniperus lycia* (Coniferæ). Bruce and, after him, Neibuhr searched in Africa and Arabia, but neither could learn anything about the tree. In 1807 Colebrooke most satisfactorily proved that Indian Olibanum at least was the product of the *Boswellia thurifera* (Cole) of Coromandel and Nagpore. Others on this concluded that the Olibanum of commerce was an Indian and not an Arabian product, an error which may be observed to this day, not only in popular, but also in some scientific works; an error all the more remarkable, considering the positive statement of Pliny regarding Arabia, and the fact of Dioscorides expressly mentioning Indian as well as Arabian Olibanum, and of Frankincense being mentioned as a foreign article in ancient Hindoo books according to Heerein- Some foreign trade may indeed have recently sprung up in Indian Olibanum, but it (stalactitic Olibanum) must be quite a curiosity in commerce as compared with the Arabian (tear Olibanum), the *male* frankincense of the ancients. In the museum at present there is only one fragment of Indian *Salai*. What then is the botanical source of Arabian Olibanum? Endlicher referred it to *Plösslea floribunda*; Hochstetter to *Boswellia papyrifera*, now known to be one with Endlicher's plant. Carter also determined the frankincense tree of Arabia to be Hochstetter's plant. On this ground *B. papyrifera* is placed at the head of the article. Part of the commercial Olibanum, however, also comes from the Troglodyte country, and this *a* comparison of the best authorities would trace to *B. papyrifera*. Still the source of African and Arabian frankincense is not sufficiently cleared up. The museum samples of Soamali Olibanum received through Major Burton certainly differ from those received from the Southern parts of Arabia, and the question whether there is not more than one incense tree remains unanswered. I have received cutting from Abyssinia and Arabia, which, although they are not likely to survive the voyage thence, are certainly from two varieties at least, of olibanum trees, one being undoubtedly from the *B. papyrifera.* The other approached the indigenous *B. thurifera.* I shall shortly however receive from Captain Playfair plants of olibanum from different spots in Arabia and Africa, with samples of the incense actually gathered from them, at these place, correspondingly numbered. This will likely elucidate all disputed points. Mr. Vaughan gives the following as the different kinds of *Luban* imported for sale into Aden market:—

Luban maitee, from Bunder Mait, collected chiefly by the Abardagahala Somalis during the months of July and August.

Luban naukur or *aungure* from Bunder Aungure and the country of Door Mahomed, and the Abardagahala Somalis.

Luban makur from the ports of Ras Rurree, Khor Bunder, Alholu, Murya, and Bunder Khasoom in the country of the Wursangali and Mijjerthên Somalis about Cape Gardafui. The drug is collected in March, April, and May, and chiefly finds its way to Bombay through the entrepôts of Maccula and Shehr.

Luban berbera or *muslika,* collected by the Aial Yunus and Aial Hamed Somalis; and lastly the Olibanum of the Libanoforous Region of Ptolemy, or Arabian olibanum (of which Vaughan does not give the local name), exported from the ports of the Hadramaut in enormous quantities to Bombay, and hence shipped to all parts of the world. Carter writing of the Arabian thuriferous district observes: "Coming from the north-east we first meet with the frankincense tree on the Sabhan mountains, in latitude 17° 30′ N. and longitude 55° 23′ E., where the desert ends, and the wooded mountainous region commences, and following the coast which runs south-west, we find the frankincense exported from the different towns, gradually diminishing after the Bay of Al Kammar, until we arrive at Makalla, from whence none is exported from the interior of Arabia, and but little used except what is brought from the African Coast opposite that town. By the same inquiry we learn that the produce of the Arabian tree is exported in largest quantities from places on that part of the coast which intervene between the latitude and longitude mentioned, and the town of Damkote, in the Bay of Al Kammar, in 52° 47′ E. longitude. Between these two points the trees are congregated in two distinct localities, on the summits and sides of the highest range of mountains near the coast, and on the plain between them and the sea: the former is called *Nedjee* or high land, and the latter *Sahil* or plain on the coast." He observes also that Ibn Batuta calls the tree *Al Kundooroo.* Colebrooke would derive the Greek word *χόνδρος* from *Cunduru,* one Sanscrit designation of frankincense. Why is the great frankincense port of Arabia called *Al Kammar*? Did it give its name to, or receive it from Frankincense? The high price of this gum-resin in ancient times arose from the trade in it being a monopoly, and from its extravagant use in religious ceremonies. Besides the *Salai* we have in India the *Boswellia glabra (Koonthrekum,* Mal. *Koondrieum,* Tam. *Googoola,* Tel.), which yields a fragrant resin known as

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Goondricum; and in the *Bhore Ghat* the *Canarium strictum* (Rox.) goes by the name of *Dhoop* on account of its fragrant exudation. The *Salai* of India is probably the basis of Wroughton's Ointment. Olibanum is often called *Male* Frankincense to distinguish it from Thus, or common Frankincense, the oleo-resin of the *Abies excelsa* or *Norway Spruce Fir.* In India also the oleo-resin of *Pinus longifolia* is besides *Birge* and *Cherkegond,* named *Gundabirosa.* No doubt too *Juniperus lycja* produces some of the Frankincense of European markets. In America a conifer is called *Frankincense Pine.* The coarse powder of Olibanum is the Manna Thuris of old writers. See also "Gums and Resins."

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Abrus precatorius. *Linn. Jamaica Wild Liquorice.*

Linn. Syst. Diadelphia Decandria.

The root.

Vernacular. *Gunja,* Sans. *Guncha* Hind. *Koonch,* Beng. *Koonee,* Mal. *Coondoomunnie,* Tam. *Ghoorie-ghinza, Yashti-madhukam, Guli-vinda, Guruginja,* Tel. *Olinda,* Cey.

Habitat. India, West Indies.

Remarks. First described by Mostus in the 15th century. A good substitute for Liquorice. See also "Miscellaneous" Class.

Acacia arabica. *Will. Gum Arabic Tree.*

Linn. Syst. Polygamia Monœcia.

The gum,—Gum-Arabic; and concrete juice of the pods.

Vernacular. The tree,—*Barbura,* Sans. *Kalikeker,* Hind. *Babula, Gursoonder,* Hind. and Beng. *Babla,* Beng. *Babool, Kaliekeeker,* Dec. *Kurroo-vaylum,* Mal. *Karoovelum,* Tam. *Nella-toomie, Tumma-chettu,* Tel. *Akakya, Umgheelan,* Arab. *Mughilan,* Pers. A variety, *Ramkanta;* and another, *Eree-babool,* Dec. The gum,—*Goond.* Dec. The extract,—*Akakia,* Arab. and By.

Habitat. India, Arabia, Egypt, Senegal.

Remarks. Gum-Arabic, the κόμμι of Hippocrates, is obtained from various species of *Acacia,* the best being procured from *A. arabica,* and *A. vera* (Will.), a native of Arabia and Northern Africa, the sources of *Turkey* or *Arabic gum, par excellence. A. arabica* yields also an inferior Gum-Arabic called *East Indian gum;* and *A. vera* together with *A. seyal* (Delile), a native of Egypt and Senegambia, and *A. senegal* (Will.), a native of Western Africa, the *Gum-Senegal* of commerce. *A. Karoo* (Hayne) yields *Cape gum,* and in North Africa the so-called *Morocco* or *Burbary gum;* and *A. tortillis* (Forskäl), and *A. Ehrenberghii* (Hayne), the *Bedouin gum* of Arabia. The *Gum-Gatee* of Bombay is a mixture of several gums.

The extract *Akakia* is described by both Hippocrates and Dioscorides. The *Shittim-tree* of the Bible is suppposed to have been an *Acacia.* See also "Gums and Resins," "Tans," and "Woods."

Acacia Catechu. *Will. Medicinal Acacia.*

Linn. Syst. Polygamia Monœcia.

The extract of the wood,—Catechu.

Vernacular. The tree,—*Khadira,* Sans. *K'hayar,* Hind. *Khuera,* Hind. and Beng. *Kair, Khadera,* By. *Wothalay,* Tam. *Podeelmaum,* Tel. *Khehiree,* Cey. *Shabin,* Pegu. The extract,—*Kat, Kuth, Khuer,* Vulg.

Habitat. The East and West Indies.

Remarks. Catechu is manufactured in different parts of India; and substances analogous to it are obtained from various trees in India and elsewhere, as from the leaves of *Uncaria Gambir* in Siam, and the kernels of *Areca Catechu* in the Deccan. Remarks on these will be made elsewhere. There is no reference made to *Catechu* in ancient authors, although the λύκιον ἰνδικὸν of Dioscorides was thought to be this article, until Royle apparently proved it to be the extract of certain Himalayan Barberries. Garcias therefore is the first known writer who mentions this plant. Terra Japonica, Terra Catechu are old names of Catechu. Now Gambir only is ever called Terra Japonica. See "Tans" and "Woods."

Agati grandiflora. *Desa.*

Linn. Syst. Diadelphia Decandria.

The bark.

Vernacular. *Agastia, Buka,* Sans. *Buka-agusta,* Beng. *Augusta,* By. *Agati,* Tam. and Mal. *Anisay,* Tel.

Habitat. India.

Remarks. See "Fruits and Vegetables," and "Gums and Resins."

Alhagi maurorum. *Tourn. Prickly-stem Hedysarum.*

Linn. Syst. Diadelphia Decandria.

The sugar,—Persian Manna.

Vernacular. The plant,—*Girikarnika, Tella-giniya-chettu,* Tel. *Khar-i-shutur, Jaursa,* Afghan. *Al-gul,* Arab. The sugar,—*Turunjabeen,* Arab. and Pers. *Juwansa, Shuturkai, Ooshturkhar,* Hind.

Habitat. Bokhara, Persia, Egypt, India.

Remarks. The sugar is secreted apparently only in Persia and Bokhara. The plant is said to be the "Occhus" of Pliny, and the "ἄκανθα ἐν 'Αρία" of Theophrastus. Sprengel would believe it also to be the "thorn" of Proverbs xxiv. 31. See above N. O. 25, and also "Sugars."

Butea frondosa. *Rox.* *Downy-branch Butea.*

Linn. Syst. Diadelphia Decandria.

The seed,—Porassum seed.

Vernacular. *Palasa*, *Kinouka*, *Kinsuka*, Sans. *Kuenee*, Hind. *Palas*, Beng. Dec. and Hind. *Laak*, Beng. *Pallus-kakria*, By. *Palassie*, Mal. *Porassum*, Tam. *Moduga*, Tel. *Gas-kœla*, Cey. *Pouk-bin*, Pegu.

Habitat. India.

Remarks. First noticed by Van Rheede. Gives its name to the memorable plain of *Palasi*, vulgarly called *Plassey*. Yields also a *kino* and a *lac*. See *Pterocarpus marsupium* below, and "Gums and Resins," and "Dyes and Colours."

Cassia Absus. *Linn.* *Flour-leaved Cassia.*

Linn. Syst. Decandria Monogynia.

The seed.

Vernacular. The seed, *Chaksoo*, Hind. *Chown*, Sindh. *Boo-tora*, Cey. *Kuskmeezurk*, *Hab-ul-soudan*, Arab. *Cushmeeguh*, Pers. *Akakalis*, Yonanee name in Bazars.

Habitat. India, Darfour.

Remarks. First mentioned by Alpinus,

Cassia auriculata. *Linn.* *Eared Cassia.*

Linn. Syst. Decandria Monogynia.

The seed.

Vernacular. *Talopota*, *Mayharie*, Sans. *Turwur*, Dec. *Tangayree*, Can. *Avaray*, Tam. *Tanghedoo*, Tel. *Rana-wara*, Cey.

Habitat. Deccan.

Remarks. See also "Tans" and "Woods."

Cassia lanceolata. *Royle.*

Linn. Syst. Decandria Monogynia.

The leaf,—Senna (Mecca and Tinnevelly).

Vernacular. *Suna-mukhi*, Hind. *Suna-pat*, Beng. *Nilaverie*, Tam. *Nela-poona*, *Nela-tunghadoo*, Tel. *Suna*, Arab.

Habitat. Tinnevelly, Guzerat, Arabia, Egypt.

Remarks. This plant yields *Mecca* and *Tinnevelly* Senna. It is different from the *C. lanceolata* of Forskāl which he thought *true Mecca Senna*. *Alexandrian Senna* consists of the leaves of *C. obovata* (Calladon), *C. acutifolia* (Delile), and sometimes *C. æthiopica* (Guibourt). Calladon's plant also yields *Aleppo*, *Senegal*, and *Italic Senna*; and sometimes with

C. æthiopica, which forms the bulk, is found in *Tripoli Senna.* *C. æthiopica* is also the source of *Smyrna Senna.* *American Senna* is obtained from *C. marilandica.* Senna is first mentioned by the Arabians, Mesue, Serapion, and Avicenna; they all refer to the pod however, as does Actuarius, the earliest Greek writer on this drug.

Cathartocarpus Fistula. *Pers.* *Purging Cathartocarpus.*

Linn. Syst. Decandria Monogynia.

The pulp of the pod,—Cassia.

Vernacular. *Soovarnuka,* Sans. *Amaltas, Pykassie,* Hind. *Sonali, Soodali,* Beng. *Bhawa,* Dec. *Choonay,* Mal. *Cakay,* Can. *Koamay, Konekai, Sarakon-nekai,* Tam. *Rayla-kaia,* Tel. *Æhæla-gaha,* Cey. *Buckbur, Kayar-shembir, Khirnoob-hindee.* Arab. *Khyar-chember,* Pers.

Habitat. India.

Remarks. First mentioned by Mesue and the Arabs. The γλυκοκάλαμον of Myrepsicus; and κασσία μέλαινα of Actuarius. See also "Woods."

Ceratonia Siliqua. *W.* *Carob Tree.*

Linn. Syst. Polygamia Diœcia.

The pod,—St. John's Bread, Carob, Algaroba Bean.

Vernacular. *Khirnoob-shamee, Nubtee, Kharroub,* Arab.

Habitat. Egypt and the Levant, Spain.

Remarks. Mentioned by Theophrastus and Pliny under the names of "κερατωνία" and "*Ceraunia.*" Called St. John's Bread from the ignorant idea that the pod constituted the honey on which John the Baptist fed in the desert. The shells of the Carob are supposed, however, to have been the "husks" which the "prodigal son" desired to eat. They were used as fodder by our cavalry throughout the Peninsular war. (Loudon.) See "Fruits and Vegetables."

Clitoria Ternatea. *Linn.* *Wing-leaved Clitoria.*

Linn. Syst. Diadelphia Decandria.

The seed and root.

Vernacular. The blue variety,—*Asphota, Uparajita, Neela-gheerie,* Sans. *Kalizer, Khagin,* Hind. *Uparajita,* Beng. *Shlonga-kuspi, Shunkoo-puspha,* Mal. *Karakartan,* Tam. *Neeladintona, Neele-ghentana,* Tel. *Nilkatarodu,* Cey. The white variety,—*Shwet-uparajita,* Beng.

Habitat. India.

Remarks. First described by Rivinus.

Guilandina Bonduc. *Linn*. *Oval-leaved Nicker-Tree.*

Linn. Syst. Decandria Monogynia.

The seed,—Bonduc-nut, Molucca-nut, Bezoar-nut, Bonduc Indorum.

Vernacular. *Koobayratchie*, *Puticaraja*, Sans. *Catcaleji*, *Nata-caranja*, *Kutkaranga*, Hind. *Nata*, Beng. *Kirbut*, Sindh. *Gutchka*, *Gudgega*, *Sagargota*, Dec. *Kalichikai*, Tam. *Gachcha-chettu*, Tel. *Kalu-wawul-œtiya*, Cey.

Habitat. India.

Remarks. First distinctly described by Avicenna, but probably one of the *Eagle-stones* of the ancients.

Liquoritia officinalis. *Mönch*. *Common Liquorice.*

Linn. Syst. Diadelphia Decandria.

The root,—Liquorice root ; and the extract of the root,—Liquorice.

Vernacular. *Madhuka*, *Yastimadhucka*, Sans. *Jetimadh*, Hind. *Meetha-lukri*, Dec. *Addimodram*, Tam. *Usulusoos*, Arab. *Bikh-mehuck*, Pers. *Usarieh-mehuk*, a synonyme in the *Ulfaz Udwiyeh*.

Habitat. The Mediterranean countries; the Shat-el Arab (G.B.); and Cochin-China.

Remarks. Probably the γλυκυῤῥζία of Hippocrates and Dioscorides. See "Sugars."

Melilotus officinalis. *Linn*. *Common Melilot.*

Linn. Syst. Diadelphia Decandria.

The pod.

Vernacular. *Asperuck* ? Hind. *Zireer* ? Pers.

Habitat. North temperate zone.

Remarks. The μελιλωτὸς of Dioscorides. The pod contains an aromatic principle, *Courmarine*, also found in the *Tonkin Bean*, *Dipterix odorata* (Leguminosæ).

Mucuna prurita. *Hook*. *Indian Cowhage.*

Linn. Syst. Diadelphia Decandria.

The hair on the pod.

Vernacular. *Alkushee*, *Atmagupta*, Sans. Beng. *Kiwach*, Hind. *Kaunch-koori*, Dec. *Poonaykalie*, Tam. *Peeliadagoo*, *Dulagondi*, Tel. *Naicorma*, Malay.

Habitat. India.

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Poinciana pulcherrima. *Linn.* *Flower Fence Poinciana.*

Linn. Syst. Decandria Monogynia.

The bark, leaf, and seed.

Vernacular. *Gul-i-turah*, *Kurish-churin*, Hind. *Krishna-choora*, Beng. *Tsettimandarum*, Mal. *Myte-konney*, *Komri*, Tam. *Reyla*, *Pomidi-tangedu*, Tel. *Monara-mal*, Cey.

Habitat. West Indies. Naturalized in India.

Pterocarpus Draco. *Linn.*

Linn. Syst. Diadelphia Decandria.

The resin,—Dragon's Blood (Socotra and America).

Vernacular. *Dumul-ook-wain*, Arab. Hind. Dec. *Jyda-roomee*, Arab. *Kandamoorgarittum*, Tam. *Catgamoorgum-nitooroo*, Tel.

Habitat. Socotra, West Indies, and Spanish Main.

Remarks. First mentioned by the brothers Commelyn, although perhaps it may be included under the κιννaβάρι of Dioscorides and the ancients. The Dragon's Blood of the Indian Archipelago is from *Calamus Draco* (Palmæ), and that of the Canary Islands from *Dracæna Draco* (Liliaceæ). See also "Gums and Resins."

Pterocarpus marsupium. *Rox.* *Emarginate-leaved*, or *Indian Kino Tree.*

The concrete gummy juice,—genuine or East-Indian Gum-Kino.

Vernacular. *Peet-shola*, Hind. *Bibla*, *Bewba*, *Bia*, Dec. *Hoonee*, Southern Mahratta Country. *Karinthagara*, Mal. *Yeanga*, Tam, *Vegisa*, *Egisa*, Tel. *Gan-malu*, Cey.

Habitat. Malabar.

Remarks. The origin of the term "kino" is not properly determined, but it is noteworthy that the Sanscrit and Hindoo names of the *Butea frondosa* (see above) are respectively *Kinsuka*, and *Kuenee*, and that that tree yields a *Gum-Kino*, called in commerce Gum-Butea, all over India. The *Pterocarpus erinaceus* (Lamarck) of Gambia and Senegal also yields a genuine *Gum-Kino*, and was the source of the original drug of the name when it first appeared in the Pharmacopœias of Great Britain 1774-1787. The *Botany Bay Kino* is derived from *Eucalyptus resinifera* (Myrtaceæ). The *Syzygium Jambolanum* of the same order, the handsome *Jambool* of Bombay gardens, also yields a kino-like gum. See "Gums and Resins," and "Woods."

Tamarindus indica. *Linn.* *Common Tamarind.*

Linn. Syst. Monadelphia Triandria.

The pod.

Vernacular. *Umlika, Tintiree, Tintili,* Sans. *Nuli, Ambli,* Hind. and Beng. *Amlee, Tentool,* Beng. *Balam-pollie,* Mal. *Pollium,* Tam. *Chinta,* Tel. *Maha-siyambala,* Cey. *Amblie, Tamarhindee,* Arab.

Habitat. India.

Remarks. First mentioned by the Arabians Mesue, Serapion, Avicenna (Pereira). The ὀξυφοινίκα of Myrepsicus. See "Fruits and Vegetables," "Condiments and Spices," and "Woods."

Trigonella Fœnum-Græcum. *Linn. Common Fennugreek.*

Linn. Syst. Diadelphia Decandria.

The seed,—Fennugreek.

Vernacular. *Methee, Moothee,* Hind. *Methee-shak, Methika,* Beng. *Mathee,* Dec. *Mentia,* Can. *Vendium,* Tam. *Mentluoo,* Tel. *Oolowa,* Cey. *Helbeh,* Arab. *Shimlet,* in the *Ulfaz Udwiyeh.*

Habitat. The Mediterranean countries. Cultivated widely in India.

Remarks. The βουκέρας of Hippocrates according to Sprengel.

Vachellia Farnesiana. *W. Sponge Tree.*

Linn. Syst. Polygamia Monœcia.

The gum.

Vernacular. The tree,—*Sami,* Sans. *Gooya-baboola,* By. *Vadayvullie,* Tam. *Kustoori, Peetooma,* Tel.

Habitat. The Mediterranean countries and India.

Remarks. According to Fraas, this is the plant named by Theophrastus, ἡ λεύκη ἄκανθος; but Sprengel says it was first described by Ambrosinio. See "Gums and Resins," and "Woods."

N. O. 75. MORINGACEÆ. *MORINGADS.*

Moringa pterygosperma. *Gært. Smooth Horse Radish Tree.*

The root.

Vernacular. *Sigroo, Sobhanjun,* Sans. and Beng. *Shajina,* Beng. *Moongay, Sujna,* Hind. *Sainga, Saigut,* By. *Mooringay,* Mal. *Nugga,* Can. *Moorungay,* Tam. *Moorunga, Moonaga,* Tel. *Merikoolu, Ganmurunga,* Cey.

Habitat. The two Indies, Africa.

Remarks. The seeds of this plant are the *Ben-nuts* and *Glans unguentaria* of old writers, and the *Hub-ool-ban* it is said of the Arabs; and, according to Lindley, the *Ben-oil* of watchmakers and jewellers is obtained from them. *Moringa aptera,* however, is the Arabian and African species, and within the writer's observation no oil is obtained from *Saigut* seeds in the Bombay Presidency. The "*Myrobalanus*" or "*unguent acorn*" of Pliny and the βάλανος of Theophrastus and the Greeks are referred to the

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M. pterygosperma. I would take the liberty to suggest, however, that the seeds of *M. aptera* are truly meant by Pliny and other classical writers. Pliny mentions "*Balanus*" wood as inferior to that of the *Persea*, but "very durable." The wood of the *Saigut* is worthless. DeCandolle doubts the distinctness of the two species of *Moringa* under comment; and it may be that the Indian *Moringa*, although it has not the hard wood and oil-seed of the Arabian, African, and West Indian plants, is yet specifically identical with them. *M. aptera* is the *Yessur* of the Arabs, the long pod of which they call *Hab-ghalee*. The seeds of neither plant have any connexion with modern Myrobalans, which see below N. O. 81. See also "Fruits and Vegetables," and "Gums and Resins."

N. O. 76. ROSACEÆ. *ROSEWORTS.*

Amygdalus communis. *Linn. var.* **amara.** *De C. Bitter Almond.*

Linn. Syst. Icosandria Monogynia.

The kernel,—Bitter Almonds.

Vernacular. *Kurwa badam* Hind. *Badam tulk*, Pers. *Lowz-ul-murr*, Arab.

Habitat. Barbary, Syria. Cultivated in Southern Europe.

Remarks. Almonds are mentioned in the Bible, and by the earliest Greek and Roman writers on medicine. See also "Fruits and Vegetables," and "Oils and Oil-seeds."

Cydonia vulgaris. *Pers. Common Quince.*

Linn. Syst. Icosandria Pentagynia.

The seed,—Quince seed.

Vernacular. *Behee-ke-beej*, Hind. *Beheedana, Bedana*, Pers. Dec. Tam. *Hubusufirjul*, Arab.

Habitat. South Europe, Asia Minor, Bokhara, Cabul.

Remarks. The *κυδώνεα* of Dioscorides, *κυδώνιον* and *στρούθιον* of Theophrastus, and the "cotonea" or *malum cotoneum* of the Romans. Quinces are called "melicotones" in old English books. The Latin and English terms are but corruptions of the Greek, which name was derived from Cydonia, a city of Crete, whence the Quince was first introduced. It was held sacred to Venus; and the "apples" of the "*Song of Songs*" refer to the fruit of this tree. The derivation by Skinner of the word *cotton* from *cotonea*, is not correct.

Prunus Cerasus. *W. Common Cherry.*

Linn. Syst. Icosandria Monogynia.

The seed and the kernel,—Cherry stones and pips.

Vernacular. *Jerasaya*, Arab. *Alo-ba-loo*, Pers.

Habitat. Armenia, the Caucasus, Hindoo Koosh, Cashmir. Cultivated in Europe.

Remarks. Introduced into Italy by Lucullus on the overthrow of Mithridates A. U. 680, and named from Cerasus (now *Keresoun*) a town of Pontus.

Rosa centifolia. *Linn.* *Cabbage Rose.*

Linn. Syst. Icosandria Polygynia.

The bud.

Vernacular. *Goolab-ka-phul,* Dec. *Wurd,* Arab. *Gul,* Pers. *Mawar,* Malaya.

Habitat. Persia.

Remarks. Theophrastus mentions a ῥόδον ἑκατοναφύλλα, and Herodotus writes of roses in the gardens of Midas, the son of Gordias, in Macedonia, "which grow of themselves so sweet that no others can come near them, and with blossoms that have so many as sixty petals apiece" (Pereira and Rawlinson). Pliny also, amongst the twelve varieties of roses he describes, names a *Rosa centifolia.* Roses are mentioned in the Bible and Homer. See also "Oils and Oil-seeds."

N. O. 81. COMBRETACEÆ. *MYROBALANS.*

Terminalia bellerica. *Rox.*

Linn. Syst. Polygamia Monœcia.

The fruit,—Belleric Myrobalan.

Vernacular. *Vibheetakee, Buhira,* Sans. *Bulla, Beheyra,* Hind. *Buhura,* Hind. Beng. *Boyra,* Beng. *Bherda, Yehela, Bullah,* Dec. *Tamkai,* Tam. *Toandi, Tadi,* Tel. *Tani,* Mal. *Booloo,* Cey. *Pangah,* Pegu. *Beleyluj,* Arab. *Beleyleh,* Pers.

Habitat. India.

Remarks. See also "Tans," "Fruits and Vegetables," and "Woods."

Terminalia Catappa. *Linn.* *Broad-leaved Terminalia.*

Linn. Syst. Polygamia Monœcia.

The fruit and kernel,—Malay Almond

Vernacular. *Inguddi, Hinghoodie,* Sans. *Badamie,* Hind. *Budam,* Hind. and Beng. *Jungli budam, Budamie-hindee,* Dec. *Adamaram,* Mal. *Nattoovadamcottay,* Tam. *Vodamovettilla, Badamchettu,* Tel. *Cotumba,* Cey. *Catappa,* Malaya.

Habitat. Malaya. Cultivated in India.

Remarks. First described by Van Rheede. He figures also (Part 5, Tab. 47) *Colubrina asiatica* (W. et A.), N. O. Rahamnaceæ, under the name of *Katapa.* See also "Fruits and Vegetables" and "Woods."

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Terminalia chebula. *Rox.* *Oval-leaved Terminalia.*

Linn. Syst. Polygamia Monœcia.

The fruit,—Chebulic Myrobalan.

Vernacular, *Haritika*, Sans. *Hur*, *Har-hara*, *Hulda*, *Hura*, *Umbedhur* ? Hind. *Huritukee*, Beng. *Heerda*, *Huldah*, Dec. *Arulay*, Mysore. *Kodorka*, Mal. *Kadukai*, Tam. *Karakaia*, *Seingi-tige*. Tel. *Araloo*, Cey. *Kayoo-bin*, Pegu. *Heliluj-kabulee*, Arab. *Helilehkeelan*, Pers. The unripe dry fruit is known by the following names,—*Kurkadaga*, Sans. *Zengi-har*, Beng. *Singi*, Tam. *Ahleluj-aswud*, Arab. *Helileh-seeah*, Pers.

Habitat. Cabul. India.

Remarks. First described by Avicenna, and again by Bryenius, 17th century. Chebulic Myrobalans are used for many purposes in India, and appear in the bazars under so many forms and colours that a tyro might fancy he was dealing with several species. They are arranged into six classes in the "Asiatic Researches," vol. 11, page 182, note, viz.:—

Helileh-zireh, the fruit dried when just formed, and the size of cumin-seed, *zeerah*.

Helileh-jawi, the fruit dried when the size of a barley-corn, *jaw*.

Helileh-zengi, the fruit dried when the size of a raisin and black like a negro, *zengi*.

Helileh-chini, larger than last, and greenish.

Helileh-asfer, the fruit near maturity and yellow, *asfer*.

Helileh-cabuli, the fruit at full maturity.

Mature Cabul Myrobalans sell for a rupee apiece in Bombay under the name of *Surwarree-hirda*. Besides the Myrobalans catalogued under the present natural order, an *Emblic Myrobalan* is known in modern commerce. These are quite distinct from the ancient Myrobalan, the seeds of the *Moringa aptera* as already noticed, and their *Phœnicobalanus*, the nut probably of the *Doum palm* of Egypt, *Hyphœne thebaica*. They have no connexion either with the *Myrobalanus chebulus* of Wesling, the *Balanites ægyptiaca* of Delile, although the fruit of this tree is commonly mixed up with mature *Cabul Myrobalans* in Bombay either by accident or fraud.

> "Myrobalanorum quinque sunt bonorum,
> Citrinus, Chebulus, Bellericus, Emblicus, Indus."—*School of Salernum.*

See "Tans," "Fruits and Vegetables," and "Woods."

N. O. 85. MYRTACEÆ. *MYRTLEBLOOMS.*

Careya arborea. *Rox.*

Linn. Syst. Monadelphia Polyandria.

The fruit.

Vernacular. *Bakoomba, Wakoomba,* By. *Peloa,* Mal. *Ave-mavoo,* Tam. *Kumbi, Budadanedi,* Tel.

Habitat. Kandeish, Western Ghâts.

Remarks. Named after Carey. See "Woods."

Caryophyllus aromaticus. *Linn.* *Clove Tree.*

Linn. Syst. Icosandria Monogynia.

The unexpanded flower bud, dried,—Cloves ; and the fruit,—Mother Clove.

Vernacular. *Luvunga,* Sans. *Lung, Luvun,* Hind. *Chankee,* Mal. *Carumboo,* Tam. *Lawangum, Lawungaloo,* Tel. *Warrala, Krabugaha,* Cey. *Kurunphul,* Arab. *Mykek,* Pers. *Changkeh, Lawang,* Malaya. *Gaumedi,* Moluccas. *Tkeng-hia* (odoriferous nails), China.

Habitat. The Moluccas. Cultivated in New Guinea, Martinique, St. Vincent, Zanzibar, Malabar, Mauritius, Bourbon, Amboyna.

Remarks. *Kurphullon* is the *Yonanee* synonyme of the bazars, but the best authorities deny that Pliny refers to the Clove under the name of *Garyophyllon ;* and although Paulus Ægineta (A.D. 600-700) notices καρυοφύλλον and, in Pereira's opinion, probably refers to the Clove, yet Sprengel, Pereira states, regards Simeon Seth (A. D. 1000-1100) as the first who mentions the article. The passage in Pliny is "est etiamnum in India piperis grani simile, quod vocatur garyophyllon, *grandius* fragiliusque* * advehitur odoris gratia." The objection to his meaning the Clove is the word "grandius," for the Clove it is said is not larger than a peppercorn, but longer. But surely "grandius" will here bear the translation of longer. Cicero uses the terms "grandis epistola" for "a long letter." Considering the Arabic name, and the *Yonanee* synonyme of the bazars, the Clove is undoubtedly the *garyophyllon* of Pliny. The only aromatic grain more brittle and *larger* than pepper is *Allspice*, a product of the West Indies exclusively, which, of course, Pliny could not have dreamt of, although Clusius and others harping on the word "*grandius*," have thought this the substance he meant. The first Incas,—whether they were Egyptian, Chinese, or Englishmen,—are considered to have been drifted from the Old World to the New ; and the Hesperides may have been the West India islands ; but within the historic period we have no mention of American products until the days of Columbus ; nor could any have been conveyed to Europe except by such fortuitous ocean currents as transported Manco Capac and his followers to Peru, and of which we have an example in the seeds of *Entada scandens.* Chinese books may yet prove an immemorial communication between the opposite shores of the Pacific, but it could never have been more than occasional, nor have extended in any probability to the West Indies ; and the Atlantic was certainly not crossed by design until centuries after Pliny. The resemblance in sound of the Arabic *Kurunphul*, Yonanee *Kurphullon,* Italian *Garofane,* and

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French *Girofle* with the Latin *Garyophyllon,* whatever that was, is very remarkable. Crawfurd remarks, however, that it is strange that Pliny, if, he meant the Clove, did not compare it to a nail, as every nation has (*clou, kloben,* &c.) from the Chinese to the Dutch *(kruidnagel,* or herb nail*)*. *Lawang* is also the Archipelagic name of the Clove-Bark of Eastern commerce, or Culilawan bark, obtained from several species of *Cinnamomum.* The Clove Bark, or Clove Cassia of Brazil, is from *Dicypellium caryophyllatum,* like the species of *Cinnamomum* of the N. O. Lauraceæ. See also "Condiments and Spices."

Melaleuca minor. *Smith. The Lesser Melaleuca.*

Linn. Syst. Polyadelphia Icosandria.

The oil distilled from the leaf,—Cajuputi-oil.

Vernacular. The oil,—*Kayapooti-ke-tel,* India. The tree,—*Kayuputi* (white-wood), Moluccas.

Habitat. Moluccas.

Remarks. First described by Rumphius. See also "Oils and Oilseeds."

Myrtus communis. *W. Common Myrtle.*

Linn. Syst. Icosandria Monogynia.

The berry.

Vernacular. *Vilati-mendee,* Hind. *Ass, Asbiree, Mowrid, Ismar, Isferem,* Arab.

Habitat. South of Europe.

Remarks. Mentioned in the Bible. The μυρσίνη of Hippocrates and Dioscorides. Pliny states that myrtle berries were used as a condiment before the introduction of pepper into Europe. The tree was sacred to Venus. See "Condiments and Spices."

Punica Granatum. *Linn. Pomerganate.*

Linn. Syst. Icosandria Monogynia.

The bud, the rind, and the root-bark.

Vernacular. *Darimba,* Sans. *Anar, Gulnar,* Hind. *Dalim, Darim, Darmee,* Beng. *Madala,* Mal. *Madalum, Magilan,* Tam. *Dadima-pandoo, Pavvu danimma,* Tel. *Delumghedie,* Cey. *Ruman, Rana, Kilkul,* Arab. *Anar,* Pers. *Delema,* Malay.

Habitat. Northern Africa, Armenia, Mazanderan, Bokhara, Cabul, Cashmire. Cultivated widely in Asia.

Remarks. Mentioned in the Bible (as Numb. xx. 5). Hippocrates calls the rind and σίδειον and the grains κόκκωνες. See also "Fruits and Vegetables," and "Tans."

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N. O. 88. BARRINGTONIACEÆ. *BARRINGTONIADS.*

Barringtonia acutangula. *Gært.*

Linn. Syst. Icosandria Monogynia.

The fruit.

Vernacular. *Samundur-phul*, Hind. *Tiwur*, By. *Sjeria-samstravadi*, Mal. *Kanapa chettu*, *Kanigi chettu*, Tel. *Diya-midella*, Cey. *Kyai-tha*, Pegu.

Habitat. The Sunderbunds, the creeks of the Concans, Pegu.

Gustavia urceolata. *W.*

Linn. Syst. Monadelphia Polyandria.

The wood,—Bois puant.

Vernacular ?

Habitat. Mauritius, Surinam ?

N. O. 92. CUCURBITACEÆ. *CUCURBITS.*

Citrullus Colocynthis. *Schrad.* *The bitter Cucumber.*

Linn. Syst. Monœcia Syngenesia.

The fruit,—Colocynth or Coloquintida.

Vernacular. *Vishala*, *Indra-varonee*, Sans. *Indrayan*, Hind. *Makhal*, Beng. *Tru-jo-par*, *Tru-jo-gosht*, Sindh. *Indrawan*, Dec. *Peycommuttee*, Mal. *Paycoomuti*, *Varriecoomutie*, Tam. *Pootsakaia*, *Papara budama*, *Verri puchcha*, *Ete puchcha*, *Chitt papara*, Tel. *Sheti-putsa*, *Tittacommodoo*, Cey. *Hanzil*, Pers. and Arab.

Habitat. Levant, India, Japan, Nubia, Cape of Good Hope. Cultivated in Europe.

Remarks. Supposed to be the *pakkoth* (*wild gourd*) of Scripture (2 Kings iv. 39), and the κολοκυνθὶς ἄγρια of Hippocrates. Dioscorides and Pliny both describe it. The common *Indrawan* of the Deccan is not the true Colocynth, but the *Cucumis pseudo-Colocynthis* of Royle, the *Bisloombee* of Hindoostan. *Makal* is also the name of *Trichosanthes palmata*, of this order, and of *Modecca trilobata*, N. O. Passifloraceæ.

Trichosanthes palmata. *Rox.*

Linn. Syst. Monœcia Monadelphia.

The fruit.

Vernacular. *Makal*, Hind. *Koundel*, Dec. *Ancoruthay*, *Coruttei*, Tam. *Abuva*, *Avagooda*, *Kakidunda*, Tel.

Habitat. India.

Remarks. *Makal* is also the name of the Colocynth, and with *Koundel* also of the *Modecca trilobata*.

N. O. 93. PAPAYACEÆ. *PAPAYADS.*

Hydnocarpus odoratus.

Linn. Syst. Diœcia Pentandria.

The seed,—Chaulmogra.

Vernacular. *Chaulmoogra, Piturkurra,* Beng.

Habitat. Sylhet.

N. O. 97. PORTULACACEÆ. *PURSLAINS.*

Portulaca oleracea. *H. S. Small Purslain.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Lonika, Loonia,* Sans. *Mooncha, Loonia, Khursa, Kurfa,* Hind. *Moonya,* Hind. and Beng. *Buro-loonia,* Beng. *Karie-cheera,* Mal. *Dooda-gorai,* Can. *Caril-keeray, Puropoo-keeray,* Tam. *Peda-pail-kuru, Boddu-pavili-kura, Ganja-pavili-kura,* Tel. *Genda-kola,* Cey. *Buklut-ul-hukema,* Arab. *Turuck, Kherefeh,* Pers.

Habitat. The temperate zone.

Remark. The ἀνδράχνη of Theophrastus and Dioscorides and *Porcilaca* of Pliny. The second ἀνδράχνη of Theophrastus or ἀνδράχλη as it is sometimes called, is the *Arbutus Andrachne* according to Sprengel, and has been confounded by ancients and moderns with Purslain. The *Chota kulpha* of Bombay is the *Trichodesma indicum* (N. O. Boraginaceæ), and *Kulpa* is one of the local names of *Andrographis paniculata,* N. O. 164. See " Fruits and Vegetables."

N. O. 110. UMBELLIFERÆ. *UMBELLIFERS.*

Anethum Sowa. *Rox.*

Linn. Syst. Pentandria Digynia.

The fruit—(India ?) Dill seed.

Vernacular. *Sitasiva, Missreya, Shaleya,* Sans. *Sowa, Soie, Soya, Shutapoospha,* Hind. *Suloopha, Soolpha,* Beng. *Suva,* Guz. *Shatha-koopha,* Mal. *Saddacooppie,* Tam. *Suddapa, Sompa, Sopu,* Tel. *Sattacooppa, Heen-œnduru* ? Cey. *Shubit,* Arab.

Habitat. India.

Remarks. Probably a variety only of *Common Garden Dill* (*A. graveolens*), the ἄνηθον of Theophrastus and Dioscorides.

> " Non tibi sit spretum, si linguam pungit anethum."—*School of Solernum.*

See " Condiments and Spices."

Apium involucratum. *Rox.*

Linn. Syst. Pentandria Digynia.

The fruit.

Vernacular. *Chanoo, Rhaduni,* Beng. *Ajmood, Aneesoon,* Hind.

Habitat. Cultivated throughout Hindoostan.

Remarks. *Anesoon* is a synonyme of *Pimpinella Anisum.*

Carum Carui. *Linn.* *Common Caraway.*

Linn. Syst. Pentandria Digynia.

The fruit,—Caraway seed.

Vernacular. *Curweeya,* Arab.

Habitat. The meadows and pastures of Europe and Asia Minor.

Remarks. The κάρος of Dioscorides and *Careum* of Pliny, both names being derived from Caria, the native country of the plant. See " Condiments and Spices."

Carum nigrum. *Royle.*

Linn. Syst. Pentandria Digynia.

The fruit,—Black Caraway seed.

Vernacular. *Zeerah-sheeah,* By.

Habitat. Kunawar.

Remarks. See "Condiments and Spices."

Conium maculatum. *Linn.* *Common Hemlock.*

Linn. Syst. Pentandria Digynia.

The fruit,—Hemlock-seed.

Vernacular. *Keerdamana,* By.

Habitat. Hedges and waste places of Europe and Asia Minor.

Remarks. Supposed to be the κώνειον of the Greeks (the State poison of Athens), and the *Cicuta* of the Romans.

Coriandrum sativum. *Linn.* *Common Coriander.*

Linn. Syst. Pentandria Digynia.

The fruit,—Coriander seed.

Vernacular. *Dunya, Dhanyaca,* Sans. Hind. Beng. Dec. *Danga,* Mal. *Cottimbirry,* Can. *Cottamillie,* Tam. and Tel. *Cotumbaroo,* Cey. *Kuzeerah,* Arab. *Kushneez,* Pers. *Mety,* Malay.

Habitat. Southern Europe, Tartary. Cultivated in India.

Remarks. Mentioned by Moses, Hippocrates, Theophrastus, Dioscorides, and Pliny, being the κορίαννον and κόριον of the Greeks. See also "Condiments and Spices."

Cuminum Cyminum. *Linn.* *Common Cumin.*

Linn. Syst. Pentandria Digynia.

The fruit,—Cumin seed.

Vernacular. *Jeruka*, *Ajaji*, Sans. *Jeera*, *Zira*, Hind. Beng. *Jeeraga*, Can. *Siragum*, Tam. *Gilakara*, Tel. *Dooroo*, Cey. *Kimoon*, Arab. *Jintan*, Malaya.

Habitat. Upper Egypt, Ethiopia. Widely cultivated.

Remarks. Commonly called *Suffaid-zeerah.* Ainslie mentions a variety, the synonymes of which are *Shazira*, Dec. *Nutsiragum*, Tam. *Coomuniesiah*, Arab. This variety is therefore probably the *Carum nigrum* of Royal. Cumin seed is mentioned by Isaiah, Hippocrates, Dioscorides, and Pliny, the plant being the κύμινον ἥμερον and αἰθιόπικον (Hip.) of the Greeks, and *Cuminum* of the Romans.

Dorema Ammoniacum. *Don.*

Ferula orientalis. *W.* *Eastern Giant Fennel.*

Linn. Syst. Pentandria Digynia.

The gum-resin,—Ammoniacum, Gum-ammoniac.

Vernacular. *Oshak*, Arab. *Semug-te-ratees*, *Semug-bil-shereen*, Pers.

Habitat. *D. Ammoniacum*, Irak ; *F. orientalis*, Morocco.

Remarks. The ἀμμωνίακον of Hippocrates and Dioscorides and the *Hammoniacum* of Pliny was derived from the Morocco plant, the *Metopion* of the last writer. It yields the "*African Ammoniac*" of modern commerce, the *Fasogh* or *Feshook* of the Arabs of Northern Africa. *Persian Ammoniac* was apparently unknown to the ancients. This gum-resin, like the *Sal-ammoniac* of the ancients, took its name from ἄμμος, *sand*, as did the temple of Jupiter Ammon, in the neighbourhood of which in Lybian sands both were produced. See also "Gums and Resins."

Ferula persica. (?) *W.*

Linn. Syst. Pentandria Digynia.

The gum-resin,—Sagapenum.

Vernacular. *Kundel*, Hind. *Eesus* ? By. *Sugbeenuj*, Arab. *Sagafioon*, Pers.

Habitat. Persia.

Remarks The σαγαπηνὸν of Hippocrates and the Greeks, and the *Sacopenium* of Pliny. We know nothing positive of the botanical source of the article. See "Gums and Resins."

CSL

Fœniculum Panmorium. *De C.*

Linn. Syst. Pentandria Monogynia.

The fruit,—(Indian ?) Fennel seed.

Vernacular. *Mudoorika*, Sans. *Panmuohri*, *Mayuri*, *Sonf*, Hind. *Goowamooree*, *Mooree*, Beng. *Warealee*, Guz. *Perun-siragum*, Tam. *Pedda-gillakara*, Tel. *Dewaduooroo*, *Rata-ænduru* ? Cey. *Razeeanuj*, Arab. *Badian*, Pers.

Habitat. India.

Remarks. Probably but a local variety of the *Common* and *Sweet Fennel* or *Finkle*, *Fœniculum vulgare* (Gært.) and *F. vulgare* var. *dulce* ;—*F. dulce* being the μάραθρον of Hippocrates and Dioscorides. Any how the *Yonanee* synonyme of the bazars for *Panmuohri* is *Marithon*. See also "Condiments and Spices."

Hydrocotyle asiatica. *W.* *Thick-leaved Pennywort.*

Linn. Syst. Pentandria Digynia.

The plant—Hydrocotyle.

Vernacular. *Thulkooree*, Beng. *Codagam*, Mal. *Valarie*, Tam. *Babassa*, *Bokkudu*, Tel. *Heen-gotu-kola*, Cey.

Habitat. Travancore.

Narthex Asafœtida. *Falc.*

Linn. Syst. Pentandria Digynia.

The gum-resin,—Asafœtida.

Vernacular. *Hinga*, Sans. *Hing*, Sans. Beng. Hind. Dec. *Hingoo*, Sans. and Cey. *Perungyum*, Tam. *Ingoova*, Tel. *Hilteet*, Arab. *Ungooseh*, Pers. *Angoo*, Malaya.

Habitat. Saristan, Afghanistan, Punjab.

Remarks. The Arabs, according to the Ulfaz Udwiyeh, also name the gum-resin, *Sumugh-ul-mehroos ;* the root, *Mehroos ;* and the plant, *Kashem* and *Unjudan*. The early history of Asafœtida is obscure. It was formerly considered to be identical with the σίλφιον of Theophrastus and the *Laserpertium* of the Romans. It certainly is not the celebrated *Silphium* of ancient Cyrene (*Laser cyrenaicum*, *Succus cyrenaicus*), which, moreover, is now on the best grounds attributed to the *Thapsia Silphion* (Viviani), which Della Cella found to be the only umbelliferous plant from Zardes to Grennah in Barca, and to correspond with the figure of the σίλφιον on the Cyrenæan and Barcæan coins. This Silphion was probably a royal monopoly, and the chief source of the wealth of the Battiadæ, as there is an antique vase extant, on which there is a represention of King Arcesilaus weighing out the drug for sale. But this precious *Laser* or *Asa dulcis* of Cyrene soon became exhausted, and for a long time before his days Pliny tells us the only *Laser* known was that which was produced in Persia, Medial and Armenia, and far inferior to the *Cyrenaic*. Pereira, following previous authorities, observes "it is not at all improbable that the *Laser of Persia* may have been our *Asafœtida*." Pereira suspects the formation of *Asa* from *Laser*, and quotes the passage in Avicenna, "There are two kinds of *Assa*, one *fœtid* and the other *odoriferous*," as if *Asafœtida* and *Asadulcis*. It is remarkable that while the Germans call Asafœtida "*Teufelsdreck*" or *Stercus diaboli*, Asiatics have denominated it *Cibus deorum*, *gods' food*. De gustibus non est disputandum. The botany of Asafœtida is not yet properly determined, for although *N. Asafœtida* certainly yields the drug of commerce, a portion is probably contributed by other umbelliferous plants. See "Condiments and Spices," and "Gums and Resins."

Ophoidia galbanifera. *Don.*

Galbanum officinale. *Don.*

Linn. Syst. Pentandria Digynia.

The gum-resin,—Gulbanum.

Vernacular. *Bireja*, Hind. *Barzud*, Arab. *Kinneh* and *Nafeel* are given in the Ulfaz Udwiyeh as Arab names of the plant.

Habitat. *O. galbanifera*, Khorassan. *G. officinale*, Syria.

Remarks. Galbanum is the *Khelbenah* of Moses, and the χαλβάνη of Hippocrates and Dioscorides. Probably the ancients referred to the Syrian kind, the *Levant Galbanum* of modern commerce, and not to *Persian Galbanum*, as Dioscorides says that Galbanum is the μετώπιον growing in Syria. Is the Syrian plant the πανακές ἐν Συρία of Theophrastus which Sprengel would identify with *Ferula persica*, W.? See "Gums and Resins."

Opopanax Chironium. *Kach.*

Linn. Syst. Pentandria Monogynia.

The gum-resin,—Opopanax.

Vernacular. *Juwashur*, Arab. and By. *Gawsheer*, Pers.

Habitat. The Levant, Croatia, and northern shores of the Mediterranean.

Remarks. Hippocrates mentions πανακές and Dioscorides states that ὀποπάναξ is obtained from the πανακές ἡρακλεῖον. Sprengel makes the πανακές χειρώνειον of Theophrastus the above plant; and the ῥάκλειον of that botanist the *Heracleum Panaces* of Willdenow, a Siberian plant. See "Gums and Resins."

Pimpinella Anisum. *Linn.* *Anise.*

Linn. Syst. Pentandria Digynia.

The fruit,—Anise-seed.

Vernacular. *Satapushpa*? Sans. *Anesun, Saurif*, Hind. *Muhooree*, Beng. *Ervidos, Echra, Sataphushpha, Sonf*, By. *Somboo*, Tam. *Kuppi-chettu*, Tel. *Sinhala-asamodagan*, Cey. *Anesoon*, Arab. *Razaneh-roomee*, Pers. *Jera-manis*, Malaya.

Habitat. Scio, Egypt, Asia. Cultivated widely.

Remarks. The Bombay names *Sonf* and *Sataphuspha* are erroneously applied to this article, and Ainslie's reference to the Sanscrit is probably also incorrect. See above, *Anethum Sowa*, and *Fœniculum Panmorium*. Mentioned by Hippocrates, Dioscorides, and Pliny, being the ἄνισον of the Greeks. The *Anise* of the English translation of the Gospel of St. Matthew refers to *Dill*. (Pereira.) See "Condiments and Spices."

Prangos pabularia. *Lind.*

Linn. Syst. Pentandria Digynia.

The fruit.

Vernacular. *Fiturasulioon*, Bazars of Asia.

Habitat. Draz.

Remarks. Burnes thought this plant might prove the Silphium of the ancients. The bazar name is a corruption of πετροσέλινον. See "Agricultural Produce—Fodder."

Ptychotis Ajowan. *De C.*

Linn. Syst. Pentandria Digynia.

The fruit.

Vernacular. *Ajamodum*, Sans. *Ajwan, Juvanee, Boro-joan*, Hind. and Beng. *Womum*, Tam. *Amoos*, Arab. *Nankah*, Pers.

Habitat. Cultivated throughout India.

Remarks. See "Condiments and Spices."

Ptychotis montana. *Graham.*

Linn. Syst. Pentandria Digynia.

The fruit.

Vernacular. *Bhaphullee*, By.

Habitat. Western Ghats.

* ——— ? ——— ?

The root,—Sumbul-root.

Vernacular. (?)

Habitat. (?)

Remarks. The celebrated Sumbul-root of modern commerce reaches Europe by way of Russia. Nothing is known of its habitat and botany.

Evidently, however, it is an umbelliferous root, produced probably in Central Asia. The Museum has no sample, and the Curator would earnestly beg any travellers in Central Asia to search for this drug, and present a specimen to the Museum. Any observations regarding the plant, dried specimens, &c., would be of the greatest interest to science. It has nothing to do with the *Sumbul-root* catalogued under N. O. 117.

N. O. 111. ARALIACEÆ. *IVYWORTS.*

Hedera Helix. *W.* *Common Ivy.*

Linn. Syst. Pentandria Monogynia.

The leaf.

Vernacular. *Lublab, Kussoos,* Northern India.

Habitat. Britain. Himalayas?

Remarks. The κιττὸς of Theophrastus, and κισσὸς of Dioscorides.

Panax quinquefolium. *Linn.*

Linn. Syst. Polygamia Diœcia.

The root,—Ginseng.

Vernacular. *Ginseng,* China, By.

Habitat. Peling mountains, Mongolia, Oregon? Columbia?

Remarks. First described by Breynius.

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Gardenia lucida. *Rox.*

Gardenia gummifera. *Rox.*

Linn. Syst. Pentandria Monogynia.

The resin.

Vernacular. **G. lucida,** *China karinguva,* Tel. **G. gummifera,** *Chittamatta, Chiri-bikki, Garaga,* Tel. The resin,—*Decamallee,* India. *Kunkham,* Arab.

Habitat. *G. lucida,* Concans. *G. gummifera,* Southern Mahratta Country, Canara, Circars.

Remarks. It is remarkable that a resin so beautiful looking and powerful smelling should be unknown in Europe except to the curious. Can it be the κάγκαμον of Dioscorides which (Lib. i. chap. 23) he mentions as an Arabian product? It is imported into Bombay from Arabia to the present day. Pliny mentions "*Concamum*" which Sprengel has referred to *G. gummifera.* Sprengel is the authority for the Arabic synonyme above given. For the varieties, see "Gums and Resins."

Hedyotis umbellata. *Linn.*

Linn. Syst. Tetrandria Monogynia.

The root,—Indian Madder, Chay Root.

Vernacular. *Imborel, Saya,* Tam. *Cheriveloo,* Tel.

Habitat. Southern India.

Remarks. First described by Plukenet. Called also by the Tamools *Ramiserumvayr,* from its growing in abundance on the island of Ramiseram. "India Madder" includes also the *Munjeet* of Bengal, and the *Aal* of Bombay. See "Dyes and Colours."

Mussænda frondosa. *Linn.*

Linn. Syst. Pentandria Monogynia.

The plant.

Vernacular. *Bebina,* Hind. *Sirwud, Bhootcase, Lanchout,* By. *Belila,* Mal. *Vella-ellay.* Tam.

Habitat. Concans, Malabar, Travancore, Coromandel, Nepaul.

Remarks. First described by Van Rheede. Used by the natives as a charm against demons. I have received this plant from South America for the Victoria Gardens.

Randia dumetorum. *Lam.*

Linn. Syst. Pentandria Monogynia.

The root, bark, and fruit.

Vernacular. *Muenphul,* Hind. *Ghela, Gaerah, Pieraloo,* By. *Makarung-kai,* Tam. *Manga-kai,* Tel. *Jowz-ul-kowsul,* Arab. *Joozul-kueh,* Pers. *Wali-kukuru-man,* Cey.

Habitat. The Concans, Malabar, and Coromandel.

Remarks. *Mainphul* is the name also of *Aleurites triloba,* N. O. Euphorbiaceæ (see below) and of *Vanguieria spinosa* of the present order, the *Aloo* of this Presidency. *Aloo* is also a local name of *Caladium esculentum* (Will.) N. O. Araceæ, the Bengalee for Potatoes, and the Persian for several rosaceous fruits.

Uncaria Gambir. *Rox.* *The Gambir.*

Linn. Syst. Pentandria Monogynia.

The extract of the leaves,—Gambir, Gambir-Catechu, Terra Japonica.

Vernacular. *Gambir,* Malaya. Indian synonymes, as for the extract of the wood of *Acacia Catechu,* and of the kernels of *Areca Catechu,* N. O. Palmæ.

Habitat. Eastern Archipelago.

Remarks. See also "Tans." *Uncaria* is also the name of a genus of Pedaliaceæ.

N. O. 117. VALERIANACEÆ. *VALERIAN-WORTS.*

Nardostachys Jatamansi. *De C.* *Spikenard.*

Linn. Syst. Triandria Monogynia.

The root,—Spikenard (quasi Spica Nardi).

Vernacular. *Jatamansi,* Sans. Hind. Beng. Tam. *Chehur, Balehar, Sumbul,* Hind. *Shadamanjie,* Tam. *Sumbul-hindee, Sumbul-ul-teb, Usrureh, Mooeygeeah,* Arab. *Nard,* Pers.

Habitat. Nepaul and Bootan at great elevations.

Remarks. Said to be the *Spikenard* (*nared*) of that "Epithalamium Epithalamiorum," the "Song of Songs" of King Solomon on the occasion of his unscriptural marriage with the daughter of Pharaoh. St. Mark also writing "*νάρδου πιστικῆς πολυτέλους* ("*nardi spicati pretiosi,*"—Vulg.), and St. John in the same terms, both are thought to refer to *Jatamansi.* Dioscorides unequivocally specifies it as *νάρδος ἰνδικὴ,* called also, as he states, "Gangetic, from a river called Ganges." He also mentions *νάρδος κελτικὴ, νάρδος ὀρεινή,* and *νάρδος Συριακὴ,* the last a variety of the Indian. There can be no doubt that the ancients, as Sir W. Jones has suggested, "used the word *nard* for any Indian essence in general, meaning what we now call âtar, and either the *âtar* of roses from *Cashmir* and Persia, that of *Cetaca* or *Pandanus,* from the western coast of India, or that of *Aguru* or Aloe-wood, from *Assam* or *Cochin China,* * * * or the mixed perfume called *abir,* of which the principal ingredients were yellow-sandal, violets, orange flowers, wood of aloes, rose-water, musk, and true spikenard." The word *nard* Sir W. Jones proved to be Persian who, as the carriers of *Jatamansi* between India and the west, must have communicated the name to Hebrews (*nerd*), Greeks (*νάρδος*), and Romans (*nardum*). Russel informed Sir W. Jones that "spikenard is carried over the desert (from *India,* I presume,) to Aleppo, where it is used in substance mixed with other perfumes, or worn in small bags, or in the form of essence, and kept in little boxes or phials, like *atar* of roses." The various phials of the ancients, called "alabastron," were used for precious scents and cosmetics. Avicenna (Royle) used the word *sumbul* as the synonyme of *νάρδος,* and Persian books describe four kinds, viz. 1st, *Sumbul-hindee* (*νάρδος ἰνδικὴ*) ; 2nd, *Sumbul-italioon* or *Sumbul-uklete* (*νάρδος κελτικη*) ; 3rd, *Sumbul-jiballee* (*νάρδος ὀρεινή*) ; and 4th, *Sumbul-farsee* (*νάρδος Συριακὴ* ?) The synonymes of *Sumbul-hindee* they give as *Sunbul-ool-teeb,* Arabic ; *Narden,* Greek ; *Nardoom,* Latin ; and *Balchar* and *Jatamasee,* Hindee ; and, moreover the φοῦ of Dioscorides, the *Valeriana dioscoridis* of Sibthorp they call *Bekh-i-sumbul* or *Sumbul-root.* This should have early afforded a clue to the identification of *Jatamansi* with *true* or *Indian Spikenard,* but every writer on the subject considered that Nard was gramineous, until Sir W. Jones clearly established it to be the root of *Nardostachys Jatamansi.* Sir W. Jones in a paper (Asiatic Researches, vol. iv) in reply to Dr. Sir G. Blane, completely destroys the arguments of the latter in favour of *Andropogon Iwarancusa* (Rox.), Sir W. Jones remarks that it is very curious, as noticed by Dr. Anderson of Madras, that in *Tamul* most words beginning with *nar* have some relation to fragrance; and that Nard is translated *nartu* in Tamul Bibles. *Celtic Nard* is the *Valeriana celtica* of Willdenow, and *Mountain Nard* the *Asarum europæum* (Will.) Celtic Nard is exported largely from Austria to Turkey and Egypt for scenting baths, and probably finds its way by the Red Sea to Bombay. Rosemary and Lavender have also been looked on as kinds of Spikenard. See "Miscellaneous" Class.

N. O. 120. COMPOSITÆ. *COMPOSITES.*

Anthemis nobilis. *Linn.* *Common Chamomile.*

Linn. Syst. Syngenesia, Polygamia-superflua.

The flowers,—Chamomile.

Vernacular. *Baboonee-phool,* Hind. and Pers. *Chamaindoo-poo,* Tam. *Baboonuj. Okh-hywan, Tuffah-ul-urz, Hubuck-ul-buckir, El-dak-l-mirza,* Arab. *Babooneh-gaw,* Pers. The plant,—*Atnamees,* Arab.

Habitat. The north temperate zone.

Remarks. Considered the παρθένιον of Dioscorides, the ανθεμὶς of that writer being thought another species. Lindley states that the flowers of *Santolina fragrantissima* are substituted for those of Chamomile in Cairo under the names of *Babounz* and *Zerysoum.*

Artemisia indica. *Will.* *Indian Wormwood.*

Linn. Syst. Syngenesia, Polygamia-superflua.

The herb.

Vernacular. *Dana,* Sans. *Downa, Mustaroo, Ghundumar, Murwa, Duna,* Hind. *Afsunteen,* By. and Arab. *Mashiputrie,* Tam. *Machi-patri,* Tel. *Walkolundo,* Cey. *Kushoos-roomee,* Arab. *Burunjasif,* Pers.

Habitat, Nepaul, China, Japan.

Remarks. The ἀψίνθιον of Hippocrates and Dioscorides is said to be *Artemisia Absinthium* (Linn). *Common Wormwood.* The Greek name has therefore been traversed by the Arabs to *Indian Wormwood,* and probably a portion of the *Afsunteen* of the bazars is *Common Wormwood.* The "Wormwood" of the Old Testament is identified by Sprengel with *Artemisia Abrotanum.*

Artemisia sternutatoria. *Sneezewort.*

Linn. Syst. Syngenesia, Polygamia-superflua.

The leaf.

Vernacular. *Nackchiknee, Hachiltie,* Hind. *Utas, Ufkar,* Arab.

Habitat. ———— ?

Artemisia vulgaris. *W.* *Mugwort.*

Linn. Syst. Syngenesia, Polygamia-superflua.

The herb.

Vernacular. *Nagdowna,* Hind. *Davanamu,* Tel. *Artemasaya, Ulmeesa,* Arab. *Birunjasif,* Pers.

Habitat. Europe, Persia?

Remarks. *Nagdown* is the name also of *Crinum toxicarium,* and *Asparagus officinalis* (Linn.), N. O. Liliaceæ.

Aucklandia Costus. *Falc.*

The root,—Costus.

Linn. Syst.

Vernacular. *Koostum, Koot,* Sans. *Koost, Putchuk,* Hind. *Koostum, Kostum,* Tam. *Kust-hindee,* Arab. *Kust-tulk,* Pers. *Sepudday,* Malay.

Habitat. Cashmere, at great elevations.

Remarks. Dr. Falconer has satisfactorily identified the Costus of the ancients with the above plant. Its roots have a strong aromatic ordour, and are used as incense in the temples of the gods, and to protect the exquisite shawls of Cashmere from the attacks of moths, being packed up with them in the bales. Pliny states that "in the island of Patale, situate at the very mouth of the Indus, their are two kinds of Costus found, the black and the white; the last is considered the best." Dioscorides enumerates three kinds of Costus (κόστος); *Arabian* (κόστος ἀραβικὸς), white, best of all; Indian (κόστος ἰνδικὸς), dark; and Syrian (κόστος συριακὸς), pale yellow. Royle observes that *Orris-root* (*beg-bunupsha*) is often sold in the *bazars* under the name of *Koost.* The *Kalikootki* of the *bazars* is the *Helleborus niger* already catalogued.

Formerly *Costus arabicus* (Linn.) and *Costus speciosus,* N. O. Zingiberaceæ, were considered the sources of true Costus, but it is now well known that their roots are quite insipid and scentless. See also "Miscellaneous" Class.

Cacalia Kleinia. *W.* *Oleander-leaved Cacalia.*

Linn. Syst. Syngenesia, Polygamia-æqualis.

The herb.

Vernacular. *Erminakullie,* Tam. *Yennapootoo-nalikeh-jemmoodoo,* Tel. *Lisan-ulasur,* Arab. *Gaozuban,* Pers.

Habitat. Canaries. India?

Remarks. First mentioned by Clusius. All Indian authorities refer *Gaozuban* to the above plant, but the *Gaozuban* of the bazars is also derived from *Anisomeles malabarica,* Labiatæ; *Trichodesma indicum, Chota-kulpha, Heliotropium erosum,* and *H. ophioglossa,* Boraginaceæ (Stocks); and *Onosma bracteatum,* with *Bugloozun* (Bugloss), and *Foogkulus* as the Greek synonymes, Scrophulariaceæ (Royle).

Centaurea Behen. *Linn. Saw-leaved Centaury.*

Linn. Syst. Syngenesia Polygamia-frustranea.

The root.

Vernacular. *Suffaid behmen*, By. *Behen-abiad*, Arab.

Habitat. The Lebanon.

Remarks. First mentioned by Avicenna. Is commonly called *White Rha-pontic*, but quite distinct from the *Imperial* or *White Rhubarb* of the Kirghis steppes and southern Altai which is a true *Rheum*. It is the *Behen album* of old pharmacologists. The *Behen blanc* of the French, their *Behen officinarum*, is the root of *Cucubalus Behen*, L. seu *Silene inflata*, Sw. The *Lalbehman* of the bazar (*Red behen* of Abulfadil) is *Salvia hæmatodes*, W. *Bloody-veined Sage*, N. O. 162. *Silene Behen* is the *Bladder Catchfly* of Crete.

Cichorium Intybus. *Linn. Wild Succory.*

Linn. Syst. Syngenesia Polygamia-æqualis.

The seed.

Vernacular. *Hinduba*, *Shikorieh*, Arab. *Kasnee*, Pers.

Habitat. Gravelly soils of Europe and Asia.

Remarks. The σέρις of Dioscorides, κιχώριον of Theophrastus, and *Cichorium* of Pliny.

Lactuca sativa. *De C. Garden Lettuce, Cos Lettuce.*

Linn. Syst. Syngenesia Polygamia-æqualis.

The seed.

Vernacular. *Kahoo*, Hind. *Salada*, Cey. *Chaff*, Egypt.

Habitat. India? Widely cultivated in Europe.

Remarks. The θρίδαξ of Greeks and Romans. Dioscorides mentions θρίδαξ ἥμερος and θρίδαξ ἀγρία. The first is considered the *Garden* and the second the *Strong-scented Lettuce*. Lactucarium, or *Lettuce opium*, is prepared from both. Its virtues as an anodyne have been greatly extolled, although it appears to be an inert substance. Yet from the earliest times paregoric powers have been attributed to the lettuce; and in the beautiful myth of Adonis, Venus is represented to have thrown herself on a bed of lettuces "to lull her grief." (Paris in Pereira.) See "Fruits and Vegetables."

Leontodon Taraxacum. *W. Common Dandelion.*

Linn. Syst. Syngenesia Polygamia-æqualis.

The root,—Taraxacum.

Vernacular?

Habitat. Europe and Himalayas. Cultivated at Hewra and Dapooree for the Bombay Government.

Remarks. Supposed to be one ἀφάκη of Theophrastus.

Pyrethrum indicum. *H. K. Indian Feverfew.*

Linn. Syst. Syngenesia Polygamia-superflua.

The root.

Vernacular. *Akurkura*, Ind. *Akkaracarum*, Tam.

Habitat. India.

Remarks. Possesses the same properties as the *Pellitory of Spain, Anacyclus Pyrethrum*, De C. the πύρεθρον of Dioscorides and *Pyrethrum* of Pliny.

Vernonia anthelmintica. *Will. Purple Vernonia* or *Fleabane.*

Linn. Syst. Syngenesia Polygamia-æqualis.

The seed.

Vernacular. *Kananaziraka,* Sans. *Kaliezeerie,* Hind. Dec. *Somraj,* Beng. *Cattasiragam,* Mal. *Caat-siragam,* Tam. *Adavje-zeelakara,* Tel. *Sanni-nayan,* Cey.

Habitat. East Indies.

Remarks. First described by Van Rheede.

N. O. 126. STYRACACEÆ. *STORAXWORTS.*

Styrax Benzoin. *Dryand. Gum-Benjamin Tree.*

Linn. Syst. Decandria Monogynia.

The concrete balsam—Gum-Benjamin, Benzoin, Assa-odorata.

Vernacular. *Ord, Loobanee-ood,* Dec. *Sambranee,* Tam. *Husseelooban, Hussee-ool-jawee,* Pers. *Cominjan,* Malay.

Habitat. Siam, Sumatra, Java, Borneo.

Remarks. The ancients are said by the highest authorities to have been totally unacquainted with Benzoin. This is remarkable, considering how familiar they were with eastern products, and that Benzoin is the most fragrant of all the balsams. In fact, it appears to the writer impossible that it should have been unknown, and that its apparent omission from the works of Dioscorides and Pliny must be due to obscurity and confusion of description on their part. Reading their works with the determination to find Gum-Benjamin somewhere, one might believe it to be the *Malabathrum* both describe, or at least one variety. This article sold at from 1 denarius to 300 denarii (8½*d.* to £10 2*s.* 6*d.*) per pound, while Bdellium sold at 3, Costus at 5, Frankincense at 6, and Myrrh (excepting Stacte, which sold so high as 40,) at the "very highest" at 11 denarii per pound. Indian Nard sold at 100 denarii per lb. Crawfurd is of this opinion, and it is difficult not to follow him on reading the description of Pliny. Pliny also speaks of a "myrrha odoraria" in a way which suggests Benjamin: it sold at 14 denarii per lb. Benjamin has been called Assa-odorata, Assa-dulcis, and Liquor Cyrenaicus. A fern *Mohria thurifera* smells like Benzoin as also does the resin of *Xanthorrhæa arborea.* See "Gums and Resins."

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Styrax officinale. *Linn.* *Officinal Storax.*

Linn. Syst. Decandria Monogynia.

The root.

Vernacular. *Boe*, By. *Usturak*, Arab.

Habitat. Levant, Greece, Palestine, Syria.

Remarks. This is the classical στύραξ, but now no balsam is obtained from it, the *Styrax* of the London College being the balsam of quite another tree, and the *Rose malloes* of the Bombay Tariff, to which correctly belong the numerous eastern synonymes erroneously supposed to refer to classical Styrax. The present tree is therefore incorrectly called *Officinal Storax.* The root is used in Bombay like Eagle-wood, and yellow Sandal-wood as incense in the temples. See N. O.s 143 and 210 below, and "Gums and Resins."

N. O. 129. ERICACEÆ. *HEATHWORTS.*

Rhododendron lepidotum. *Wall.*

Linn. Syst. Decandria Monogynia.

The leaf.

Vernacular. *Tsaluma, Tsuma,* of Bhoteas. *Taleesfur,* Northern India.

Habitat. Sikkim, Nepaul, Cabul?

Remarks. Royle states that *Mafur,* and *Mafur-fooz,* are assigned as its Greek synonymes in Persian works. *Talisafar* he also observes is the Arabic name in Avicenna for the μάκερ of the Greeks and *Macir* of Pliny, which has not yet been identified. The *Taleesfur* of the bazars certainly cannot be referred to it.

Rhododendron campanulatum. *Don.*

Linn. Syst. Decandria Monogynia.

The leaf.

Vernacular. *Hoolas-kasmeeree, Burg-i-tibbut,* Northern India.

Habitat. Gossaing-Than in Nepaul, Kamaon, Thibet?

N. O. 136. MYRSINACEÆ. *ARDISIADS.*

Embelia Ribes. *Burns.*

Linn. Syst. Pentandria Monogynia.

The fruit.

Vernacular. *Baibarung, Waiwarung,* Hind. *Karkunnie,* By. *Vishaul,* Mal. *Vellal,* Tam. *Vayu-velangam-chettu,* Tel.

Habitat. India.

N. O. 138. OLEACEÆ. *OLIVEWORTS.*

Fraxinus rotundifolia. *Lam.* *Round-leaved Manna Ash.*
Fraxinus Ornus. *Linn.* *European Manna Ash.*

Linn. Syst. Diandria Monogynia.

Sweet concrete exudation,—Manna.

Vernacular. *Shirkhist*, Bombay bazar.

Habitat. Alpine South Europe; Sicily, Calabria?

Remarks. This substance is said to have been unknown to the ancients, although they are supposed by some to refer to it under the names of δροσομέλι (honey-dew), ἐλαιομέλι (honey-oil), and ἀερομέλι (honey-air). Certainly Pliny's description of Elæomeli should satisfy the most sceptical that he means Manna. The grains of *Festuca fluitans*, Linn. are called Mannæ Grana by old writers. They call also the coarse grains of Olibanum, Manna Thuris. See N. O. 25, and "Sugars."

Olea? ———— ?

Linn. Syst. Diandria Monogynia?

Sweet concrete exudation,—Khorassan Manna.

Vernacular. *Shirkhist*, Pers. By.

Habitat. Khorassan.

Remarks. True *Shirkhist*. It comes from Khorassan, and is supposed by Royle to be produced by an olive. The writer has discovered leaves amongst the *balls* of *Shirkhist* which come from Constantinople which certainly belong to a species of olive. See "Sugars."

N. O. 140. ASCLEPIADACEÆ. *ASCLEPIADS.*

Asclepias curassavica. *W.* *Curassavian Swallowwort.*

Linn. Syst. Pentandria Digynia.

The root.

Vernacular?

Habitat. West Indies. Quite naturalized in India.

Remarks. Is a good emetic and sudorific.

Calotropis gigantea. *R. Brown.* *Curled-flowered Calotropis.*

Linn. Syst. Pentandria Digynia.

The root, bark, inspissated juice, and sugar.

Vernacular. *Arka, Akund, Seaytavrkum*, Sans. *Ak, Mudar*, Hind. *Rowee*, By. *Yecada*, Can. *Yercum, Vullerkoo*, Tam. *Neelajeeleeroo*, Tel. *Moodu-wara*, Cey. *Maioh*, Burmah. *Oshmar, Oschar*, Arab. *Bejd-eloschar, Eminion*? (*Kercher*) Egypt. White variety,—*Alarka*, Sans. *Shwet akund* and *urka*, Beng. *Tellajelladoo*, Tel. The sugar,—*Sukkur-ool-ashur*, Vulg. The spirit,—*Bar*, By.

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Habitat. India.

Remarks. First mentioned by Avicenna. An intoxicating liquor also called *bar* is prepared from this plant in Western India. The great *Ak*-bar was born beneath the *Ak*, and took his name from it according to the local tradition of Oomercote. See also "Narcotics," "Sugars," and "Gums and Resins."

Hemidesmus indicus. *R. Brown.*

Linn. Syst. Pentandria Digynia.

The root,—Indian Sarsaparilla.

Vernacular. *Shadipa*, Sans. *Mugrabu*, Hind. *Ununtamool*, *Kural*, Beng. *Muckwy*, Dec. *Narooneendee*, Mal. *Nunnari-vayar*, Tam. *Soogundapala*, *Pala-chukkanderu*, Tel. *Irimusu*, Cey. *Oshba*, Arab.

Habitat. Concans, Malabar, Travancore, Coromandel.

Sarcostemma brevistigma. *W. et A. Twisting Sarcostemma.*

Linn. Syst. Pentandria Digynia.

The stem.

Vernacular. *Soma*, *Somaluta*, Sans. and Beng. *Tiga-tshumoodoo*, *Pulla-tige*, Tel. *Muwa-keeriya*, Cey.

Habitat. Hills of Pujaub, Bolan Pass, Rohilcund, Khandeish, Hills about Poona, Coromandel.

Remarks. The *Som* of the Vedas, its name being derived from the circumstance that it was gathered by moonlight by the ancient Hindoos. They carried it to their homes in carts drawn by rams; and a fermented liquor was prepared by mixing its juice, strained through a sieve of goat's hair, with barley and *ghee*. This wine was drunk at all their religious ceremonies, and was used as an intoxicant by the *rishis*, who, in the golden age of Hindooism, combined it at their meals with beef. Water passed through a bundle of *Somaluta* and a bag of salt will extirpate white ants from a field watered with it. (*Oriental Christian Spectator.*) See "Narcotics."

N. O. 141. APOCYNACEÆ. *DOGBANES.*

Allamanda cathartica. *Rœ. and Sch. Willow-leaved Allamanda.*

Linn. Syst. Pentandria Monogynia.

The leaf.

Vernacular. ?

Habitat. South America. Naturalized in Bombay.

Remarks. First described by Plumier.

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Alstonia scholaris. *Don.*

Linn. Syst. Pentandria Monogynia.

The bark.

Vernacular. *Septaperna,* Sans. *Chatinn,* Beng. *Satween, Shaitan,* By. *Pala, Mookum-pala,* Mal. *Eer-ellay-palay,* Tam. *Edakula-ariti, Pala-garuda,* Tel.

Habitat. South Concan, Travancore, Coromandel, Assam.

Remarks. "The natives (of the Ghats) have a superstitious fear of it, and say, it assembles all the trees of the forest once a year to pay homage." (Graham.)

Cerbera Thevetia. *Don.* *Linear-leaved Cerbera.*

Linn. Syst. Pentandria Monogynia.

Vernacular. ?

Habitat. South America. Naturalized throughout the Western Presidency.

Remarks. First described by Hernandez. Two grains of the bark are said to equal in antiperiodic power a scruple of Cinchona. There is a genus *Thevetia,* but the genus *Cerbera* includes no transfer from that genus (?), and it is wrong to give a specific term, unless an old generic, a generic form. *Thevetia* above should have been *thevetiana* or else *thevetii.* Being generic in form, however, it is written as usual with a capital initial.

Nerium odorum. *Rox.* *Sweet-scented Oleander.*

Linn. Syst. Pentandria Monogynia.

The root.

Vernacular. *Karravera,* Sans. *Hyamara,* Hind. *Lal-kharubee.* Beng. *Kunher,* By. *Tsjavonna-aralee,* Mal. *Arali,* Tam. *Ghenneru,* Tel.

Habitat. India.

Remarks. First described by Van Rheede. The "tree" in Psalm i. 3, refers to the *Nerium Oleander,* W., *Common Oleander,* according to Sprengel.

Wrightia antidysenterica. *Don.* *Oval-leaved Wrightia.*

Linn. Syst. Pentandria Monogynia.

The bark and seed.

Vernacular. *Kootuga, Cheeree,* Sans. *Koorchi, Curayja, Inderjaw, Inderjau-shireen,* Hind. *Inderjo, Dowla-koora, Koora,* By. *Codaga-palla, Palla-patta,* Mal. *Veppalie,* Tam. *Palla-coodija, Manoopala, Girimalika, Kodisa,* Tel. *Tiwaj, Lissan-ul-asafeer,* Arab.

Habitat. Concan, Malabar, Ceylon, Bourbon.

Remarks. First described by Van Rheede. The bark is the *Conessi-bark* of European Pharmacopœias. It is named *Inderjau-shireen* to distinguish it from *Inderjau-tulk, Holarrhena antidysenterica* and *H. pubescens* of this natural order. *Andusaroon* is the *Yoonanee* synonyme of native writers.

Wrightia tinctoria. *Don. Dyer's Wrightia.*

Linn Syst. Pentandria Monogynia.

The bark.

Vernacular. *Hyamaraka?* Sans. *Bhoorcooree, Kala-koora, Kala-kooda,* By. *Pala, Palak, Palavay-raynoo,* Tam. *Tshil-ankaloo, Chit-ankaloo, Amkudu, Tedlapala,* Tel.

Habitat. Concans, Malabar, Travancore, Coromandel, Cochin-China.

Remarks. See "Dyes and Colours."

N. O. 42. LOGANIACEÆ. *LOGANIADS.*

Ignatia amara. *Linn.*

Linn. Syst. Pentandria Monogynia.

The seed,—St. Ignatius's bean, Faba febrifuga, F. amara, Nux Serapionis.

Vernacular. *Papeeta,* Hind.

Habitat. Philippines.

Remarks. First unequivocally described by Kamel, who has lost the credit of many of his discoveries, owing to having sent them to others to describe.

Strychnos Nux-vomica. *Linn. Poison Nut.*

Linn. Syst. Pentandria Monogynia.

The seed,—Nux-vomica, Nux-mechil.

Vernacular. *Veeshamoostie, Kulaka,* Sans. *Koochila,* Hind. Beng. *Kajra,* By. *Kariram,* Mal. *Yettie-marum,* Tam. *Moostighenza, Musadi,* Tel. *Koodakad-doorutta,* Cey. *Kha-boung,* Pegu. *Izarakee,* Pers. *Falooz-mahee, Khanek-ul-kelb,* Arab.

Habitat. Concans, Travancore, Ceylon, Coromandel.

Remarks. Latin translations of the Arabians, Serapoin, and Avicenna mention a *Nux-vomica,* but are supposed to refer to *St. Ignatius's bean,* their *Rachaba,* or *Nux-mechil* being considered our "*Poison-nut.*" It probably is *Common Henbane* seed. Avicenna himself calls *Nux-vomica, Azarakhee* and *Adarachi.* The true *Naga-musada* (*Lignum colubrinum, Pao-de-Cobra,*) of the Telegoos is *S. colubrina.* The term *Lignum colubrinum* has also, however, been applied to several other plants reputed antidotes to snake-bites, and amongst others to *Cissampelos acuminatus,* which is the *Naga-mushadee* of the Hindoos and *Tileakoora* of Bengal.

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Strychnos potatorum. *Rox.*

Linn. Syst. Pentandria Monogynia.

The seed,—Clearing nut.

Vernacular. *Kutaka, Payaprasadi,* Sans. *Nirmullee, Nell-mall, Chilbinge,* Hind. *Gajra, Nirmalla,* By. *Tettamperel-marum,* Mal. *Chittu,* Can. *Tettom-cottay-marum,* Tam. *Indupu, Chillaghenzaloo, Katakamu,* Tel. *Ingini,* Cey.

Habitat. The mountain regions of the Deccan.

Remarks. See "Miscellaneous" Class.

N. O. 143. GENTIANACEÆ. *GENTIANWORTS.*

Ophelia Chirata. *Gries.*

Linn. Syst. Tetrandria Monogynia.

The herb,—Chirayta.

Vernacular. *Chirataka, Kirata-ticta,* Sans. *Chirayta,* Hind. *Shayraat-coochie,* Tam. *Sheelasuttoo-coielloo,* Tel. *Kubs-al-zarireh,* Arab.

Habitat. Nepaul ; the Morungs.

Remarks. Was supposed by Guibort to be the κάλαμος ἀρωματικὸς of the Greeks, a clear error. It is the *Casab-al-datereh* of Mathiolus. Mr. Balfour of the Madras Museum states that under the name of *Chirayta* many other species of Gentianworts are sold, as *Chironia centauroides,* (Rox.), the *Geema* and *Girmi* of Bengal ; *Exacum bicolar* (Rox.) ; *Exacum tetragonum* (Rox.), the *Koochuri* of Bengal ; *Exacum hyssopifolium* (Will.), the *Voellarekoo* of Telinga ; and others. *Kreat* is our local name for *Andrographis paniculata,* N. O. Acanthaceæ, and *Chirati* of *Mukia scabrella,* N. O. Cucurbitaceæ.

Ophelia multiflora. *Dalz.*

Linn. Syst. Tetrandria Monogynia.

The herb.

Vernacular. ?

Habitat. Mahableshwur.

Remarks. *O. elegans* (R. W.) is a native of the Pulney Hills and Northern Circars, and thus all India is provided with valuable bitters of the same order. The local names of the *O. elegans* are *Silarus* and *Salagit* according to the Honorable Walter Elliot, F.L.S., and Major Drury, which is a remarkable circumstance, seeing *Sillarus* is one of the eastern and commercial names of *Rose Malloes,* falsely called *Liquid Storax ;* and *Salajit,* an Arabian synonyme of *Solid Storax* as it is called, but which in truth is solid *Rose Malloes.* See N. O.s 156 and 210, and "Gums and Resins."

N. O. 147. PEDALIACEÆ. *PEDALIADS.*

Pedalium Murex. *Rox. Prickly-fruited Pedalium.*

Linn. Syst. Didynamia Angiospermia.

The fruit.

Vernacular. *Ghejasoodumoostra*, Sans. *Burragokhroo*, Hind. *Kaka-moolloo*, Mal. *Amei-nerunshil, Ananeringee*, Tam. *Yeanugapulleroo*, Tel. *Ætnerenchi*, Cey.

Habitat. Shores of the Deccan, and particularly at Cape Comorin.

Remarks. First described by Van Rheede.

N. O. 151. CONVOLVULACEÆ. *BINDWEEDS.*

Batatas paniculata. *Don.*

Linn. Syst. Pentandria Monogynia.

The root.

Vernacular. *Bhoomi-koorma*, Hind. and Dec. *Phal-modecca*, Mal. *Deo-kunchanum, Bhuchakragadda, Nellagummudu, Chirigummudu, Metta-pala-tige*, Tel. *Ha-angilla*, Cey.

Habitat. Bengal, Assam, Deccan.

Convolvulus Scammonia. *Linn.*

Linn. Syst. Pentandria Monogynia.

The gum-resin,—Scammony.

Vernacular. *Sukmuniar, Mehmoodeh*, Hind. *Sugmoonia*, Arab.

Habitat. Hedges of Greece and the Levant.

Remarks. Hippocrates, Dioscorides, and Pliny all speak of a substance called by them *σκαμμώνιον* and *Scammonium*, but it has not been completely identified with modern Scammony.

Exogonium Purga. *Bentham.*

Linn. Syst. Pentandria Monogynia.

The root,—True Jalap.

Vernacular. ?

Habitat. The alpine woods of Mexico. Cultivated on account of Government at Hewra.

Ipomœa cœrulea. *Ker. Pale Blue Ipomœa, Morning Glory.*

Linn. Syst. Pentandria Monogynia.

The seed.

Vernacular. *Neel-kulmee*, Hind. The seed,—*Mirchai, Kala-dana*, Hind. *Hub-ul-nil*, Arab.

Habitat. East Indies.

Ipomœa Turpethum. *Don.* *Square-stalked Ipomœa.*

Linn. Syst. Pentandria Monogynia.

The root,—Turpeth, Turbith.

Vernacular. *Trivoorta,* Sans. *Teoree, Doodh-kulmee, Niswut, Nagputtur,* Hind. Beng. Dec. *Shevadie,* Tam. *Tella-tegada,* Tel. *Trasta-walu,* Cey. *Hudulzungee, Turbid* (root), Arab.

Habitat. Malabar; Coromandel.

Remarks. First mentioned by Avicenna.

N. O. 153. CORDIACEÆ. *SEBESTENS.*

Cordia angustifolia. *Don.* *Narrow-leaved Cordia.*

Linn. Syst. Pentandria Monogynia.

Vernacular. *Goond, Goondnee, Gondi,* Hind. *Liyar,* Sindh. *Narroovalli, Chinna-botuku,* Tam. *Nukkeru,* Tel.

Habitat. Deccan.

Remarks. *Gondni* is the name also of a species of *Bulrush;* and *Goindu* of *Diospyros Goindu* (Dalzell), N. O. Ebenaceæ. See "Fruits and Vegetables," and "Woods."

Cordia Myxa. *Linn.* *Smooth-leaved Cordia.*

Cordia latifolia. *Rox.* *Broad-leaved Cordia.*

Linn. Syst. Pentandria Monogynia.

The fruit,—Sebesten plum.

Vernacular. **C. Myxa,**—*Bukampadaruka, Buhoovaruka,* Sans. *Lusora,* Hind. *Buhoorai,* Beng. *Lesooroo,* Sindh. *Bookhur,* Dec. *Vidi-marum,* Mal. Tam. *Nekra, Nakeru, Iriki, Pedda-botuku,* Tel. *Lolu,* Cey. *Sepistan,* Arab. *Sepistan, Pistoan-sug,* Pers. *Kendal,* Java. **C. latifolia,**—*Sheloo,* Sans. *Bhokur, Buralesoora,* Hind. *Burobuhoori,* Beng. *Gedooroo,* Sindh. *Burgoond, Vurgoond,* Guz. *Bokhur,* Dec. *Kicha-virigi-chettu,* Tel. *Sepistan,* Arab. *Sepistan, Pistan-sug,* Pers.

Habitat. *C. Myxa,* Egypt, Arabia, Persia, Goozerat, Silhet. *C. latifolia,* India within and beyond the Ganges.

Remarks. The fruit of the latter is larger than that of the former species, and both constitute the Sebestena of old Pharmacopœiæ. *C. Myxa* has been considered the *Persea* of the ancients already shown to refer to *Balanites ægyptiaca;* it is very probably the *Myxa* and *Egyptian-plum* of Pliny, and certainly it afforded the wood of the Egyptian mummy cases. There is just a chance that it also may have been the *Persea* of Dioscorides, although the probability is that it is not, and that he, like Pliny, in describing the *Persea,* confounded it with the Persica or Peach. Sprengel refers the *Persea* to *Cordia Sebestena,* a species peculiar to the Antilles, and which Linnæus most unfortunately named after a renowned product of the old world. The seeds of *Cordia Myxa* are sold under the name of *Chakoon-ke-benge*. See "Fruits and Vegetables," and "Woods."

N. O. 157. SOLANACEÆ. *NIGHTSHADES.*

Physalis somnifera *var.* **flexuosa**, *Nees. Flexuose Winter Cherry.*

Linn. Syst. Pentandria Monogynia.

The root.

Vernacular. *Ashuva, Ashwa,* Sans. Beng. *Asgund,* Hind. Dec. *Pevetti,* Mal. *Amkoolang,* Tam. *Penerroo, Aswagandhi, Pillivendram,* Tel. *Amuk-kara,* Cey. *Behmun, Barde, Obab, Varakesschefa,* Arab. *Sekaran,* Egypt.

Habitat. Concans, Travancore, Coromandel, Bengal.

Remarks. First distinctly described by Van Rheede, but is thought to have been the στρύχνος ὑπνωτικὸς of Dioscorides, and the second kind of *halicacabum* of Pliny, called *morio* and *moly*. Kunth recognized it in Egyptian mummy cases. It often goes by the name of *Kaknuj* in the *bazars,* but erroneously. *Asgund* is also the *Hindee* name of *Justicia Adhatoda* (Rox.), the *Adulsa, Bakus,* or *Vasooka* of Bombay.

Puneeria coagulans. *Stocks.*

Linn. Syst. Diœcia Pentandria.

The berry.

Vernacular. *Kaknuj, Rajpootuka, Binpoonka,* Hind. *Puneer-ja-fota,* Sind. *Shaprunga,* Peshawur. *Hub-ul-yahood, Jowz-ul-murj,* Arab. *Kaknuj,* Pers. *Khumzuray,* Candahar. *Aroosuk-pus-purdah (Bride behind the curtain),* Fars. *Kuchoomun,* Shiraz. *Kumree-murja,* Syria. *Akeedoleon,* Turkey. *Ousfudnoon,* Yonanee. *Halikabum,* Latin of Bazars. *Hub-ul-kaking,* Vulg.

Habitat. Sind, Beloochistan.

Remarks. Stocks (Journal of the Royal Asiatic Society, vol. iii.) observes that the berry *Hub-ul-kaking* has been referred to the plant "called by Tournefort *Alkekengi officinarum;* and by Linnæus, *Physalis Alkekengi,* and the same plant is identified with the στρύχνος ἀλικάκαβος mentioned by Dioscorides. Dr. Royle * * has suggested the *Nicandra indica* (R. and. S.), referred more properly to the genus *Physalis* under the name of *P. indica* (Lam.), and which Loureiro called *P. Alkekengi.* Dr. Royle also throws out the idea that the widely-distributed *Physalis somnifera* (var. *flexuosa,* Nees) was the original *Kaknuj,* and that the *N. indica* was merely used as a substitute." He then goes on to prove that the *Puneer-ja-fota* of Sind is the true *Hub-ul-kaking,* and establishes the plant as a new genus, its specific name being derived from its being used as the *Solanum sanctum,* Forskäl (*S. coagulans* is the name Forskäl gives), is used in Arabia to coagulate milk. There can be scarcely a doubt of the correctness of Stocks's view; of all writers on Indian botany, he having been the most accomplished and the shrewdest, and always absolutely truthful. He warns the reader, however, that if his *Puneeria coagulans* be not the source of *Kaknuj*, the synonymes of that drug as above given must be transferred to some other plant. The *Physalis Alkekengi* (Linn.), is Pliny's first kind of *halicacabum*, called also *callion* and *vesicaria*. See "Miscellaneous" Class.

N. O. 158. ATROPACEÆ. *ATROPADS.*

Atropa Belladonna. *Linn. Deadly Nightshade, Common Dwale.*

Linn. Syst. Pentandria Monogynia.

The berry.

Vernacular. *Sug-ungoor, Ungoor-shefa*, Hind. *Girboolee*, By.

Habitat. Temperate Europe.

Remarks. Not well identified with any plant described by Theophrastus, Dioscorides, and Pliny. Tragus (A.D. 1513) first undoubtedly mentions it. It is supposed to have been the plant which so fatally affected the Roman soldiers during their retreat from the Parthians; and Buchanan tells us that when Sweno invaded Scotland, the wily Banquo provided the hostile army with liquors poisoned with *Dwale*, on drinking which they were quickly overpowered, Sweno himself scarcely escaping. "The insane root that takes the reason prisoner" of Shakespeare is also thought to be the *Deadly Nightshade.* The appellation of Bella-donna arose, perhaps, from its being used by Italian belles to dilate the pupils of their eyes.

Datura Hummatu *var.* **fastuosa,** *Bernh. Purple Thorn-apple.*
Datura Metel. *W. Downy Thorn-apple.*

Linn. Syst. Pentandria Monogynia.

The seed.

Vernacular. Black species,—*Doostoora, Krishna dhattura*, Sans. *Kala-dhatura, Lal-dhatura*, Hind. Beng. *Umana, Nela-hummatu*, Mal. *Karoo-oomattay*, Tam. *Nulla-oomatie*, Tel. *Kaloo-attana, Antenna*, Cey. *Bunjdhestee*, Arab. *Goozgeeah*, Pers. *Rotecubung*, Malay. White-species,—*Sada-dhatura*, Hind. Beng. *Hummatu*, Mal. *Yellay-oomattay*, Tam. *Tella-oomatie, Datturamu*, Tel. *Sada-attana*, Cey. Both in common,—*Dhatura*, India. *Jowz-mazil* (*Methel-seed*), Arab.

Habitat. Egypt; Asia.

Remarks. The seeds of these plants and those of *D. Tatula*, of South Europe, were probably used by the priests of Delphi and other ancient oracles to produce prophecies. The seeds of *D. sanguinea* (Floripondio) are to this day so used in the Temple of the Sun, in the city of Sagomozo in Peru. (Lindley.) In Avicenna *Jowz mazel* stands for *D. Metel*, according to Sprengel. *D. Hummatu* is first well described by Vesling. See "Narcotics."

Hyoscyamus niger. *Linn.. Common Henbane.*

Linn. Syst. Pentandria Monogynia.

The seed,—Faba porcina, Faba suilla.

Vernacular. *Khorassanee ajwan*, Hind. *Khorassanie omum*, Tam. *Showkran*, Arab. *Sapht*, Egypt. *Bunj*, *Buzir-ul-bung*, *Tokhem-bung-roomee*, Pers.

Habitat. Temperate Europe. Cultivated at Hewra on account of Government.

Remarks. The ὑοσκύαμος μέλας of Dioscorides and *Hyoscyamus niger* of Pliny. The ὑοσκύαμος of Hippocrates refers to the *White Henbane* of Europe.

Mandragora officinalis. *W. Officinal Mandrake.*

Linn. Syst. Pentandria Monogynia.

The root.

Vernacular. *Luckmuna*, *Luckmunie*, Hind. *Yebruj*, Beng. and By. *Caat-jootie*, Tam. *Ustrung*, *Serag-al-coshrob*, *Ussul-ul-loofah* (root), *Loofah* (plant), *Tufah-ul-shitan* (fruit), Arab. *Yabrooz*, *Merdumgeeah*, Pers. *Loofahat*, Malaya.

Habitat. South of Europe ; Asia Minor.

Remarks. According to Sprengel the μανδραγόρα of Hippocrates and μανδραγόρας of Theophrastus, which Fraas however refers to *Belladonna*. It is certainly the μανδραγόρας μέλας of Dioscorides and *Mandragora* of Pliny, and it is generally allowed to be the *Dudaim* of the Bible, Gen. xxx. 14. The word *mandrakes* in this passage the Septuagint renders μῆλα μανδραγορῶν, but according to Calmet the Jews do not understand its true signification. He would translate it "citrons," while others, he states, have suggested "violets," "lilies," "jasmines," and "plantains ;" the last also being considered by the Arabs the "Apple of Eve," and the "fig-tree," with the leaves of which both Adam and Eve covered themselves on their fall. Taking the story of Rachel and Leah, however, in connexion with the immemoral use of *mandrake* in the east by lovers as an incantation, the fruit being the "*Love Apples*" of the ancients, and the Hebrew root, *Dod*, of the word *Dudaim* signifying *love*, there can be no doubt of the identification followed in this catalogue. Mathiolus (says Calmet) tells us that "what has given occasion to mandrakes having the name of *Anthropomorphos*" is the habit of quacks giving the roots of various plants the fashion of the human body to impose them on silly women under the name of *Mandrakes* or *Hands of Glory*. The belief in mandrake as a love philter (hence Venus was often styled *Mandragorites*) is an absurd superstition ; and yet a nearly allied plant, the *Jarborosa*, has the same reputation in South America ! (Lindley.) Persian writers describe the *Gensing* of China as a *Mandrake*. *Cucumis Dudaim*, W., is the *Apple-shaped Cucumber* of the Levant.

N. O. 161. LABIATÆ. *LABIATES.*

Anisomeles malabarica. *R. Br.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Bootan-kooshum*, Sans. *Gaozuban*, By. *Pemayrutie*, Tam. *Moga-beerakoo, Mabheri, China-ranabheri*, Tel.

Habitat. India.

Remarks. For *Gaozuban* see also N. O. 120.

Dracocephalum royleanum. *Royle?*

Linn. Syst. Didynamia Gymnospermia.

The seed.

Vernacular. *Tukm-balungoo, Balungoo*, Hind.

Habitat. Cultivated widely in northern India.

Hyssopus officinalis. *W. Common Hyssop.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Zoofæ yeabus, Ushnaz-daoud*, Arab.

Habitat. South Europe; Asia Minor.

Remarks. Although there is much dispute on the subject, this is probably the *Esob* so often mentioned in the Scriptures: strong as the arguments for *Capparis ægypiiaca*, may be. It cannot, however, be the *hyssop* of 1 Kings iv. 33, where, recording the learning of Solomon, it says "and he treated about trees, from the cedar that is in Lebanon unto the *hyssop* that *cometh out of the wall.*" The writer would have us understand that the *largest* and the *smallest* plants were known to Solomon, and his antithesis, as well as the expression "*hyssop that cometh out of the wall,*" point to some moss or lichen, probably the *Gymnostomum fasiculare*, a moss very common in the Holy Land, and as minute as that (*Dicranum bryoides*) which revived hope in Mungo Park in the deserts of Africa.

Lavandula Stœchas. *W. French Lavender.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Oostakhoodus*, Arab. By

Habitat. South Europe and Asia Minor.

Remarks. The ἴφυον of Theophrastus according to Sprengel.

Marrubium vulgare. *Linn. Common White Horehound*

Teucrium Chamædrys. *W. Wall Germander.*

Linn. Syst. Didynamia Gymnospermia.

Habitat. Temperate Europe.

Remarks. These are two of the ingredients of the celebrated *Treeak-farook* of the bazars, which is the representative of the *Mithridatum*. *Theriaca Andromachi*, or *T. Damocratis* of the ancients. Originally it consisted of but a few simples, but now contains so many as sixty-one including opium. It is, in fact, a complete aromatic opiate, a drachm of it being equal to one grain of opium. The little canisters of *Treeak-farook* found in the bazars are wrapped in paper on which is printed in Persian, "The Theriakh of Andromachi, an invention of Theron the Presbyter, It is prepared, measured, and made public by me, John Baptist Sylvestrius, in the Rialto, by authority of the excellent Government Physicians of Ancient Righteousness, and of the Council of Apothecaries and learned Physicians, &c., &c." (Mr. Waring.) *Theriaca Veneta* is also a synonyme of this electuary. Theriaca is, moreover, the origin of the English word *treacle* spelt *triacle* in the age of Elizabeth. *Wall Germander* is (Sprengel) the χαμαίδρυς of Theophrastus. The πόλιον of Hesiod, Musæus, and Theophrastus (*Polium*, Pliny), is thought to be the *Teucrium Polium* of Linnæus. Dioscorides and Theophrastus mention *White Horehound* under the name of πράσιον, and *Marrubium* is its original Roman title. *Stinking black Horehound, Ballota nigra*, W., Labiatæ, is the βαλλωτή of Dioscorides and *Ballota* of Pliny.

Melissa Officinalis. *W. Common Balm.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Badrangbuyeh*, Pers. Hind. *Ramtulsee*? Hind. *Mekka-subza*, Dec. *Parsie-cunjamkoray*, Tam. *Buklut-ul-faristoon*, *Buklut-ul-utrujyeh*, Arab.

Habitat. South Europe.

Remarks. The μελισσοφύλλον and μελιτταίνα of Dioscorides, and *Melissophyllum* of Pliny.

Mentha sativa. *W. Tall Red Mint.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Poodina*, Dec. *Widdetilam*, Tam. *Nana, Hubbuh*, Arab.

Habitat. Temperate Europe and Asia?

Remarks. The μίνθη of Hippocrates and Theophrastus according to Sprengel; but it is very unsafe to identify specifically the sweet herbs of the ancients belonging to one class, and probably they themselves did not recognize the specific differences of modern science. Mr. Waring applies the above eastern synonymes to *M. crispa, M. hercynica* of Rohling.

Mentha viridis. *Linn.* *Spear Mint.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Pahari-poodenah*, Dec.

Habitat. Temperate Europe, Himalayas.

Ocymum Basilicum. *W.* *Common Sweet Basil.*

Linn. Syst. Didynamia Gymnospermia.

The seed.

Vernacular. *Manjirika*, Sans. *Kalee-tulsee*, Hind. *Pashanabheddie, Babooitulsee*, Beng. *Nazbo*, Sindh. *Subze*, Dec. *Tirnootpatchie*, Tam. *Vepoodipatsa, Rhu-talsi, Rudrajada*, Tel. *Sewanda-tala*, Cey. *Rihan, Shahusferum, Hebak, Asaba-ul-feteyat, Badrooj* ? *Bucklut-ul-zub* ? Arab. *Deban-shab, Nazbu, Ungooshtkunee-zuckan, Tureh-khorasani ?* Pers. *Berunj-mishk* ? Vulg.

Habitat. India.

Remarks. The Ὤκιμον of Hippocrates, Theophrastus, and Dioscorides it is believed, and *Ocimum* of Pliny, but this may well be doubted.

Ocymum sanctum. *W.* *Purple-stalked Basil.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Parnasa, Sorasaw, Ajaka*, Sans. *Kala-tulsi*, Hind. Beng. *Kural*, Beng. *Toolsee*, Dec. *Toolasee*, Tam. *Niellatirtooa, Krishna-toolsee*, Mal. *Ulsee-badrooge*, Arab.

Habitat. India.

Remarks. Sacred to Vishnoo, whose followers wear a necklace of its stalks and roots. In the Deccan villages the fair Brahminee may be seen every morning, after having ground the corn and performed her simple toilet, walking round and round the *toolsee* planted on a little altar before her husband's home, invoking the blessings of heaven on him and his children. The *toolsee* is also sacred to Krishna, the story being that it is the transformed nymph Tulasi, beloved by him. To Vishnu are also dedicated the *Jasminum undulatum*, and the plants mentioned above under N. O. 16. See "Miscellaneous" Class.

Origanum Dictamnus. *W.* *Dittany of Crete.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Buklut-ul-gezal*, Arab.

Habitat. Candia.

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Remarks. The *δίκταμνος κρήτικος* of Hippocrates and Theophrastus, and *δίκταμνος ἀπὸ κρήτης* of Dioscorides.

> "There blossom'd suddenly a magic bed
> Of sacred dittany and poppies red :
> * * * * * * * * * *
> * * * Perhaps, thought I, Morpheus,
> In passing here, his owlet pinions shook ;
> Or, it may be, ere matron Night uptook
> Her ebon urn, young Mercury by stealth,
> Had dipp'd his rod in it." *Endymion.*

Origanum Marjorana. *Linn.* *Knotted* or *Sweet Marjoram.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Murwa,* Dec. *Marroo,* Tam. *Mirzunjoosh,* Arab. *Mardakusch,* Arab. Egypt.

Habitat. Southern Europe, North Africa, Syria.

Remarks. According to Fraas the *ἀμάρακον* of Theophrastus, the *σαμψύχον* of Dioscorides, and *Amaracus* and *Sampsuchum* of Pliny.

Origanum vulgare. *Linn.* *Common Marjoram.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Buklut-ul-gezal* ? *Sutur* ? Arab. *Oushneh* ? Pers. *Mridu-maruvamu,* Tel.

Habitat. Temperate Europe ; Asia Minor.

Remarks. Probably the *ὀρίγανον μέλαν* of Theophrastus and *ἀγροορίγανος* of Dioscorides. *Iceland Moss,* N. O. 273, is called *Oosneh.*

Rosmarinus officinalis. *Linn.* *Common Rosemary.*

Linn. Syst. Diandria Monogynia.

The tops.

Vernacular. *Ukleel-ul-jilbal, Hasalban-achsir,* Arab.

Habitat. South of Europe ? Asia Minor.

Remarks. The λιβανωτὶς στεφανωματικὴ of Dioscorides and *Rosmarinum* of the Romans. *Cachrys cretica,* Lam. N. O. 110, is the λιβανωτὶς of Theophrastus.

Salvia hæmatodes. *W.* *Bloody-veined Sage.*

Linn. Syst. Diandria Monogynia.

The root. Red Behen.

Vernacular. *Lal-behman,* By. *Behen,* Arab.

Habitat. Italy.

Remarks. First mentioned by Abulfeda. Old writers very arbitrarily it would seem, refer *Behen rubium* to *Statice Lenionium,* N. O. 167.

Salvia officinalis. *W. Garden Sage.*

Linn. Syst. Diandria Monogynia.

The herb.

Vernacular. *Salbia,* Hind. *Sefakuss,* Ainslie.

Habitat. South Europe.

Remarks.

> Salvia Salvatrix, naturæ conciliatrix,
> Salvia cum Ruta, faciunt tibi poculatuta.—*School of Salernum.*
> Car morietur homo cui Salvia, crescit in horto ?—*Old Proverb.*

The Chinese also excessively prize Salvia, and the Tea-trade commenced by the Dutch exchanging it for Tea.

Thymus vulgaris. *Linn. Garden Thyme.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Ipar,* Hind. *Hasha,* Arab.

Habitat. South-west Europe.

Remarks. The θύμος of the ancients was closely allied to this plant.

N. O. 162. VERBENACEÆ. *VERBENES.*

Stachytarpheta jamaicensis. *Vahl. Jamaica Bastard Verbain.*

Linn. Syst. Diandria Monogynia.

The leaf.

Vernacular. *Rata-nil-nakuta,* Cey.

Habitat. Jamaica.

Vitex trifolia. *Linn. Three-leaved Chaste Tree.*

Linn. Syst. Didynamia Gymnospermia.

The leaf and fruit.

Vernacular. *Sindhuca, Jela-nirghoondi, Sindwara,* Sans. *Nishindha, Seduri, Samalu, Simbalu,* Hind. *Peni-ke-shumbali,* Hind and Dec. *Caranosi,* Mal. *Neernoochie,* Tam. *Tellaravillie,* Tel. *Meean-milila,* Cey. *Usslukeabie, Filfil burree,* Arab. *Lagondi,* Malaya.

Habitat. India.

Remarks. Probably some of the above synonymes are meant for the *Vitex Agnus Castus* (Linn.), the celebrated ἄγνος of the Greeks and *Castus* of the Romans, or *Common Chaste Tree* of Southern Europe, and which derived its names from its use at the Thesmophoria, or sacred rites of Ceres, by the Athenian women. Dioscorides and Pliny both mention it, and it and its fruit are widely known in the East by the following synonymes; *Shumbaloo,* Hind. *Ursud, Buzir-ül-funfungoosht, Filfil burree,* Arab. *Punjungoosht,* Pers. See "Condiments and Spices."

N. O. 164. ACANTHACEÆ. *ACANTHADS.*

Andrographis paniculata. *W.*

Linn. Syst. Diandria Monogynia.

The herb.

Vernacular. *Cairata,* Sans. *Creat, Kalupnath, Mahatita,* Hind. *Kala-megh,* Beng. *Kreat, Kalpa,* Dec. *Kiriatha, Cara-carinam,* Mal. *Kiriat,* Can. and Tam. *Nela-vemba,* Tam. *Kari* and *Nella-vemoo,* Tal. *Attadie, Heen-bin-kohomba,* Cey. *Ufar,* Arab.

Habitat. India.

Asteracantha longifolia. *Nees. Long-leaved Barleria.*

Linn. Syst. Didynamia Angiospermia.

The seed.

Vernacular. *Itchoora, Ikshugandha,* Sans. *Gokshura,* Hind. *Kanta-koolika,* Beng. *Talimkhana,* Dec. *Wahel-schulli,* Mal. *Neermollie,* Tam. *Neer-goobbie,* Tel. *Katu-iriki,* Cey.

Habitat. Concans, Malabar, Travancore, Bengal.

Remarks. First described by Plunkenet.

N. O. 166. PRIMULACEÆ. *PRIMWORTS.*

Cyclamen europæum. *W. Common Cyclamen.*

Linn. Syst. Pentandria Monogynia.

The root.

Vernacular. *Hathajooree,* Hind. *Urtenysa, Ussul-ul-urtenysa, Bekhoor-miriem, Punjeh-miriem,* Arab. *Shejereh-miriem,* Vulg.

Habitat. North temperate zone.

Remarks. The *κυκλάμινος* of the Greeks, although as under the eastern synonymes, more than one species of *Sow-bread* was probably included under that name. Pliny calls it *Cyclaminos* or *Tuber terræ.* It is adulterated with a *Violet* root. *Ceylon Moss,* N. O. 276 too, is called *Hathajooree.*

N. O. 167. PLUMBAGINACEÆ. *LEADWORTS.*

Plumbago rosea. *W. Rose-coloured Leadwort.*

Linn. Syst. Pentandria Pentagynia.

The root.

Vernacular. *Rukta-chitraca, Aroona-chitraca, Chitraca,* Sans. *Chitra, Lal-chitra,* Hind. *Rakto-chitra, Chitra,* Beng. *Schettie-codivalie, Choovondacoduvallie,* Mal. *Chitturmol, Cittra-molum, Yerra-kodivaylie,* Tam. *Yerra-chitra,* Tel. *Rathnetul,* Cey. *Shitturridge,* Arab.

Habitat. East Indies.

Remarks. First described by Van Rheede. The *Radix vesicatoria* of Rumphius ? The root of *R. scandens* has similar properties and is called *Herbe du Diable* by the French of St. Domingo.

N. O. 168. PLANTAGINACEÆ. *RIBWORTS.*

Plantago Ispaghula. *Flem.*

Linn. Syst. Tetrandria Monogynia.

The seed,—Spogel seed.

Vernacular. *Ispagool,* Pers. and Hind. *Ispungur,* Sindh. *Ispoghol,* Tam. *Isphagula,* Tel. *Buzr-katoona,* Arab. *Fuslioon,* Yonanee.

Habitat. Persia.

Remarks. The ψύλλιον of Dioscorides and *Psyllium* of Pliny refers to a *Fleawort,* and is said to be identified with the *Plantago Psyllium* (W.), the *Fleaseed* or *Fleabane* of South Europe. The *Yonanee* synoyme of *Ispagool* would lead one to suppose that this species might also have been included in the term by medical writers of antiquity.

Plantago Psyllium. *W. Fleawort.*

Linn. Syst. Tetrandria Monogynia.

The seed.

Vernacular. *Bartung,* India.

Habitat. South Europe.

Remarks. See *P. Ispaghula.*

N. O. 169. NYCTAGINACEÆ. *NYCTAGOS.*

Mirabilis Jalapa. *W. Common Marvel of Peru.*

Linn. Syst. Pentandria Monogynia.

The fruit.

Vernacular. *Bahubami, Sundiaragum,* Sans. *Sanji,* Hind. *Gulabbas,* Hind. Dec. *Krishna-keli,* Beng. *Goolbajee,* By. *Undimundarei, Patrashi,* Tam. *Chandra-kanta,* Tel. *Sendrikka,* Cey. *Zahr-el-lejl,* Arab. *Siibb-ellejl,* Egypt. *Rambat-polukampat,* Malay. *Reso,* Japan.

Habitat. West Indies.

N. O. 170. AMARANTHACEÆ. *AMARANTHS.*

Achyranthes aspera. *Rox.* *Rough Archyranthes,* or *Chaff-flower.*

Linn. Syst. Pentandria Monogynia.

The fruit.

Vernacular. *Apamarga,* Sans. *Agareh,* Hind. Dec. *Lalchirchuri,* Hind. *Upanga, Hoorhooriya, Chirchiria,* Beng. *Cadelari,* Mal. *Nahi-ooroovie,* Tam. *Ooteraynie, Pratyuk-pushpi, Antisa,* Tel. *Gas-karal-sœbo,* Cey. *Neajam,* Egypt.

Habitat. India.

Remarks. First described by Van Rheede.

N. O. 171. CHENOPODIACEÆ. *CHENOPODS.*

Salicornia arabica. *W.* *Arabian Glasswort.*

Linn. Syst. Menandria Monogynia.

The root.

Vernacular. *Chubuck-sowyeh, Chook,* Hind. *Ghasul,* Pers. *Ushnan,* Arab.

Habitat. Arabia.

Remarks. The Museum sample is uncertain. *Salicornia brachiata,* (Rox.) Coromandel and the Sunderbunds, and *S. indica* (W.) Malabar, yield Barilla. The root of *Black Pepper* is called *Chubuck.*

Spinacia oleracea. *W.*

Linn. Syst. Diœcia Pentandria.

The seed.

Vernacular. *Sag-paluk, Paluk,* Hind. *Ispanaj,* Pers. Arab.

Habitat. (?)

N. O. 174. PHYTOLOCACEÆ. *PHYTOLACCADS.*

Gisekia pharnaceoides. *W.* *Trailing Gisekia.*

Linn. Syst. Pentandria Pentagynia.

The herb.

Vernacular. *Manalie keeray,* Tam. *Easikedunti-koora,* Tel. *Ætrilla-pala,* Cey.

Habitat. Southern India.

N. O. 176. POLYGONACEÆ. *BUCKWHEATS.*

Rheum palatum. *W.* *Officinal Rhubarb.*

Linn. Syst. Enneandria Trigynia.

The root,—Rhubarb (*quasi* Barbarian Rah).

Vernacular. *Rewund-chenee,* Hind. *Rawund, Reebass,* Arab. *Rivend-tchini,* Pers.

Habitat. Mongolia.

Remarks. The ῥᾶ or ῥῆον of Dioscorides is supposed to be modern Rhubarb, and he speaks of it as coming from the countries beyond the Bosphorus: and the *Rheum Rhaponticum* (Linn), a native of the shores of the Euxine, Caspian, and Siberia, was formerly thought to be the source of *Genuine Turkey,* or *Russia-Crown* Rhubarb. Mr. Anderson at Chelsea Gardens, however, found that *Rheum palmatum,* was the only *Rhubarb* which yielded a root at all like the officinal article; and hence, although no attempts to identify the plant in Mongolia have succeeded, it is very properly concluded that *Rheum palmatum* is the source of the drug now known in commerce as *Russian-Crown,* because imported into Europe by way of Russia, but formerly, from having been carried through Turkey, called *Turkey Rhubarb. Chinese, East Indian* or *Canton,* and *Dutch* or *Batavian Rhubarb* are also derived from this plant, but would appear to be merely the refuse of the Russian market. *Taschkend Rhubarb* is also the refuse of the genuine drug, *White,* or *Imperial,* the root of *R. leucorrhizum* (Pal.), *Bucharian* of *R. undulatum* (Linn.), while *Siberian* is from an undetermined plant. *Himalayan Rhubarb* is derived from several species of *Rheum,* natives of the Himalayas, and *Europæan Rhubarb* is obtained from *R. Rhaponticum, R. undulatum,* and *R. compactum* (Linn), chiefly. It is strange that a druggist in Calcutta or Lucknow has to receive his *Rhubarb* after passing through Kiachta, St. Petersburgh, and London, and over two wide oceans, instead of through the Himalayan passes. It is probable that *R. Rhaponticum,* Linn. (Rhabarbarum Dioscoridis, Rhabarbarum antiquorum) is the true ῥᾶ or ῥῆον *of the ancients.* The fruit of *Centaurea Behen* is the White Rhapontic of old pharmacologists;—that of *C. Centaurium* being their Common Rhapontic. Monks' Rhubarb (Rhabarbarum Monachorum) is the root of *Rumex Patienta,* Bastard Rhubarb, or Poor Man's Rhubarb of Herbals is the root of a species of *Thalictrum,* N. O. 1. The root of the Mexican Convolvulus (C. Mechoacan) is also called *Rhabarbarum album.*

Rumex dentatus. *W. Dentated Dock.*

Linn. Syst. Hexandria Trigynia.

The nut.

Vernacular. *Gool-hamaz,* Pers.

Habitat. Egypt; Himalayas?

Remarks. Gool-hamaz, Pers. *Chooka-ke-phool,* Hind. and *Tamir,* Arab. are general names for Dock-nuts. Whether I have properly identified the *Gool-hamaz* of the Bombay Bazar, I have not data enough to positively state. The smaller *Bacook-ke-phal,* I refer, also tentatively, to *R. ægyptiacus.* W., *Egyptian Dock, Beejbund* seems another *Rumex.*

N. O. 178. LAURACEÆ. *LAURELS.*

Cinnamomum Cassia. *Blume.*

Cinnamomum zeylanicum *var.* **Cassia.** *Nees.*

Linn. Syst. Enneandria Monogynia.

The bark,—Cassia-lignea.

Vernacular. *Tuj*, Hind. *Darchini*, Dec. *Lawunga*, Tam. *Dawul-kurundu*, Cey. *Saleekeh*, Arab. *Ngoo-see*, Burmah. *Cayoomanis*? Malaya.

Habitat. *C. Cassia*, China, cultivated in Java. *C. zeylanicum* var. *Cassia*, India.

Remarks. It is impossible, says Pereira, to determine whether this is the κασσία of the Greeks. Sprengel states it to be so, and as they also describe a κιννάμωμον, and *Kashu* is the Malay word for wood, his conjecture is probably correct, although the descriptions in Hippocrates, Theophrastus, and Dioscorides of Cassia, and in Hippocrates, Dioscorides, and Pliny of Cinnamon are vague. Nearly all the so-called Cinnamon of modern commerce is Cassia. Cassia leaf, *Tej-pat*, has been thought the μαλάβαθρον of Dioscorides. The *Kiddah* of the Bible, in the English version *Cassia*, is translated ἶρις in the Septuagint, but *Cassia* both by St. Jerome and Sprengel. Probably every species of *Cinnamomum* yields Cassia-lignea as stated by Wight. Thus the species which yield *Culilawan bark* or the *Clove bark* of Eastern Commerce, namely *C. Culilawan*, Blume, *C. rubrum*, Blume (*Laurus Caryophyllus*, Lour.), *C. Sintoc*, Blume, *C. xanthoneuron*, Blume, and *C. javanicum*, Blume (*Laurus malabathrum*, Horsf.), and one of the kinds of *Massoy bark*, viz. *C. Kiamis*, Nees (*C. burmanni*, Blume), all no doubt are sources of *Cassia*, as well as of *Culilawan* or *Clove* and *Massoy* barks. *C. zeylanicum* var. *Cassia* is the *Laurus Cassia* of Linn. Syst. Nat. ed 1760, page 1010. *C. Cassia* is *C. aromaticum*, Nees, and *Laurus Cinnamomum* (Bot. Repos., table 595). See "Condiments and Spices." See "Cinnamon," "Tamulaputru," and "Orris-root," below.

Cinnamomum iners. *Rein.*

Linn. Syst. Enneandria Monogynia.

The leaf.

Vernacular. *Dar-chini*, Hind. *Coat-carva*, Mal. *Pachchaku*, Tel.

Habitat. Concans, Malabar.

Cinnamomum loureirii. *Nees.*

Linn. Syst. Enneandria Monogynia.

The dry, immature flower-bud,—Cassia flowers.

Vernacular. *Kio-kiu*, China. *Ni-kei*, Japan.

Habitat. Cochin China, Japan.

Remarks. This is the *Laurus Cinnamomum* of Loureiro.

Cinnamomum nitidum. *Blume.*

Cinnamomum Tamala. *Nees.*

Linn. Syst. Enneandria Monogynia.

The leaf,—Folia Malabathri, F. Talamapathri, F. Indi.

Vernacular. *Tamalaputra,* Sans. *Putruj* (bark), *Sadrus,* Hind. *Tej-pat,* Beng. *Cadegi-hindi,* Arab,

Habitat. *C. nitidum,*—India, Ceylon, Java. *C. Tamala,*—India.

Remarks. Supposed to be the *Folia malabathri* of the ancients described by Dioscorides and Pliny, but *Pan (Piper betel)* has also been said to be this article. *C. nitidum* above is the same as *Laurus Malabathrica,* Rox. and *C. eucalyptoides,* Nees; and must not be confounded with *C. nitidum,* Nees, or true Cinnamon tree.

Cinnamomum zeylanicum. *Nees.*

Linn. Syst. Enneandria Monogynia.

The bark,—Cinnamon.

Vernacular. *Darasita,* Sans. *Dalchinee,* Hind. Beng. Dec. *Katukarua,* Mal. *Karruwa,* Tam. *Sanalinga,* Tel. *Kurunda, Rassu-coronde, Cacin-nama,* Cey. *Darchini,* Pers. *Theet-kyaboh,* Burmah. *Caymanis,* Malaya. *Kinman,* Hebrew. *Akimoona,* Yonanee.

Habitat. The Troglodyte country. Cultivated in Ceylon and Java.

Remarks. Most assuredly included under the head of κιννάμωμον by Dioscorides. It is not to be doubted also that it is the *Xylocinnamum* of Pliny, Lib. xii. ch. 42; although he probably confounds some other aromatic with *Cinnamon* when speaking of it in ch. 63 of the same book. *Cinnamon* is before this, however, mentioned in the Bible (Exodus xxx. 23), and by Hippocrates and Herodotus (Bk. iii. ch. 111). No doubt by all the ancients, as yet by the moderns, *Cinnamon* was never very carefully distinguished from *Cassia-lignea;* yet the ancients speak both of *Cinnamon* and *Cassia,* and not a little remarkable is it, that in the passage from Herodotus above noticed, *Cinnamon* and *Cassia* are separately mentioned within a line of each other. In the English version of the Bible *Cassia* is also mentioned in the verse succeeding that in which *Cinnamon* occurs in Exod. xxx. But some may regard this as a mere coincidence, the Hebrew word *kiddeh* in verse 24 being, as before stated, rendered by ἶρις in the Septuagint, although St. Jerome (Calmet) and Sprengel translate it *Cassia.* In Psalm xlv. 8 the word, however, occurs in the Septuagint version Σμύρνα, καὶ στακτή, καὶ κασία; *stacte* here too being thought to mean not the best myrrh but eagle-wood. It is strange that both Herodotus when writing of *Cassia,* and Pliny of Cinnamon, have been thought to refer to *Nutmeg,* but on no other ground than because in the eyes of their critics *Cassia-lignea* is not sufficiently pronounced. The same reasoning would be good for thistles or figs. The habitat of

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the Cinnamon tree has been the subject of much controversy. Dr. Thwaites believes it to be indigenous to Ceylon as he has found what he considers original woods of it in the central ranges of that island. On the other hand, until the days of Ibn Batuta, no writer, European or Asiatic, makes mention of Cinnamon amongst the exports of Ceylon. Nees von Esenbach states that *dar-chini* is the Persian for Chinese wood and that Cinnamon is simply *Chinese-amomum*, but I follow Pliny, Ptolemy, Bruce, and the learned Cooley in placing the *Regio Cinnamomifera* in the Troglodyte country. Cooley, following Bruce, states that *Gardafui*, means the port (*gard*) of aromatics (*aphaour*); quasi Aromatum Promontorium. Arrian (Vincent) mentions κασσία and three other articles, all of which Vincent has translated as commerical sorts of Cinnamon, as with fragrant gums (ἄρωμα) and frankincense the exports of Tabai, identified by the learned Dean of Westminster with Ras Hafoon, and which Arrian implies were also the products of Arômata or Guardafui. Sir J. Emerson Tennent, K.C.S., who gives a clear summary of the "Cinnamon Controversy," and adopts the views of Pliny, Ptolemy, and Cooley observes that "Lankagodde, a learned priest of Galle, says the word *lawunga* in an ancient Pali vocabulary means Cinnamon, but I rather think this is a mistake, for *lawanga* or *lavanga* is the Pali for 'cloves,' that for cinnamon being *lamago*." Above it will be seen that "*Lawanga*" is the Tamil for Cassia. *Lavunga scandens* (Ham.), N. O. Aurantiaceæ, is the *Lavunga-luta* of Sanscrit books, and a native of Shilet. It is remarkable that while the Indo-Germans prefer Cinnamon, the Mongolian races prefer Cassia-lignea, the more refined bark being unsaleable amongst the latter. The Cinnamon of Santa Fé is obtained from *Nectandra cinnamomoides*, and that of the Isle of France from *Oreodaphne cupularis*, both Laurels. *C. Zeylanicum* is *Laurus Cinnamomum* (Linn. sp. pl. 528), *Laurus Cassia* (*Bot. Mag.* fig 1636), and *C. nitidum*, Nees. The bark of *Calycanthus floridus*, N. O. 77. Calycanthaceæ is substituted for Cinnamon in the United States of America. See also "Orris root," and "Condiments and Spices."

Laurus Camphora. *Linn.*

Linn. Syst. Enneandria Monogynia.

The solid volatile oil sublimed from the wood,—Camphor.

Vernacular. *Karpura*, Sans. *Kafur*, Arab. Hind. Dec. Malaya. *Ghansar*, Hind. *Carpooram*, Tam. *Payok*, *Paroak*, Burmah. *Baroos*, Malaya.

Habitat. China, Japan, Cochin-China. Introduced into Java.

Remarks. Camphor is first mentioned by Avicenna, Serapion, and Simeon Seth, and by the last under the name of καφουρὰ (Pereira).

> Camphora per nares castrat odore mares.—*School of Salernum.*

It is strange that there really is no trace of this drug in Pliny and Dioscorides, and other ancient writers. It has nothing to do with *Borneo Camphor*, the *Lung naou heang* or *Dragon's Brain Perfume*, so extravagantly prized as a panacea in China. This is the product of *Dryabalanops aromatica* (Gært.), N. O. 34. Dipterocarpaceæ, found in Borneo and Sumatra. *An authentic sample of it is required for the Museum.* If *common Camphor* could be converted into *Borneo,*—and it might be,—large fortunes would be rapidly made at the first start of the manufacture,—the value of *Borneo Camphor* being in China 80 times that of China and Japan. The Black Birch (N.O. 211) of North America yields Birch Camphor, or Betuline. *Karpoor* is a name of *Columnea balsamica,* Gesneraceæ. See "Oils and Oil-seeds."

Laurus nobilis. *Linn. Sweet Bay.*

Linn. Syst. Enneandria Monogynia.

The berry.

Vernacular. *Zafnee, Hub-ul-ghar* (berry) Arab.

Habitat. Italy.

Remarks. The δάφνη of Hippocrates and the Greeks, and not the green bay tree of the Bible. This, and not the Laurel of English shrubberies, is the true poet's and victor's laurel; and the term *Bachelor* (in the degrees of science and the arts) is, it is said by some, derived from the custom which once prevailed of placing a crown of *Sweet Bay, in berry,* on the heads of successful students, who were thus—*Bacca laureatus.* The common *Laurel* of English shrubberies is *Cerasus Laurocerasus,* and the *Portugal Laurel, C. lusitanica,* both *Roseworts.* The *Laurestine* is *Viburnum Tinus, V. Opulus* being the *Guelder Rose,* both Caprifoliaceæ. One kind of δάφνη of Theophrastus, Sprengel refers to *Avicenna tomentosa* (Rox.) found in the salt marshes about the Vellard and Sion Causeway.

Tetranthera roxburghii. *Nees.*

Linn. Syst. Enneandria Monogynia.

The bark.

Vernacular. *Maida luckri,* India.

Habitat. Mountains of India, Chittagong, Cochin-China, and Java.

N. O. 184. PENÆACEÆ. *SARCOCOLLADS.*

Penæa ? ——— ?

Linn. Syst. (Penæa) Tetrandria Monogynia.

The fœtid gum-resin,—Sarcocolla.

Vernacular. *Gotjur,* By. *Unzeroot,* Arab. *Kunjudeh,* Pers.

Habitat. Ethiopia? Persia?

Remarks. The Σαρκοκόλλα of Dioscorides, who says it is obtained from a Persian tree; and Lindley is inclined to think it is the product of an Umbellifer, and not of a plant of the present order. Some say it comes from Ethiopia. See "Gums and Resins."

N. O. 185. THYMELACEÆ. *DAPHNADS.*

Daphne Mezereum. *W. Mezereon* or *Spurge-Olive.*

Linn. Syst. Octandria Monogynia.

* The root,—Mezereon.

Vernacular. *Maziryoon, Mazrioon, Adada? Ishkhes?* Arab. *Mustroo,* Pers. *Kameela,* Yonanee.

Habitat. Kent, Hampshire, temperate Europe.

Remarks. Pereira states that Tragus (1532) is the first to mention *Spurge Olive,* and that the χαμέλαια of Dioscorides is probably another species of the genus. The root of the *bazars* may therefore be obtained from more than one *Daphne.*

N. O. 191. ARISTOLOCHIACEÆ. *BIRTHWORTS.*

Aristolochia bracteata. *Retz. Bracteated Birthwort.*

Linn. Syst. Gynandria Hexandria.

The herb.

Vernacular. *Pattrabunga,* Sans. *Gundatee, Keeramar,* Dec. *Addatinapally,* Tam. *Garida-guda-pa,* Tel.

Habitat. Banks of the Jumna and Ganges; Deccan.

Aristolochia indica. *W. Indian Birthwort.*

Linn. Syst. Gynandria Hexandria.

The herb and root.

Vernacular. *Irkamoola, Ishwara,* Sans. *Isrievayl, Israbel, Isarmel, Hari,* Hind. *Ishurmool,* Beng. *Sampsun,* Dec. *Perumarundoo, Kadalavegan,* Mal. *Perumarundoo, Telashroobe,* Tam. *Eesara, Doola-gooila, Erra-kalabanda,* Tel. *Sat-sanda, Sacasander,* Cey.

Habitat. Bengal, Concan, Travancore, Coromandel.

Remarks. First described by Van Rheede.

Aristolochia longa. *Linn. Long-rooted Birthwort*

Linn. Syst. Gynandria Hexandria.

The root.

Vernacular. *Zerawund-tuweel, Aristalookheea,* Arab *Zerawund-draz,* Pers.

Habitat. South Europe.

Remarks. The ἀριστολοχία μακρὰ of Dioscorides, and the *Aristolochia* "with round tubercles" of Pliny. Theophrastus mentions an ἀριστολοχία.

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Aristolochia rotunda. *Linn.* *Round-rooted Birthwort.*

Linn. Syst. Gynandria Hexandria.

The root.

Vernacular. *Zerawund-mooderuj,* Arab. *Zerawund-geerd,* Pers.

Habitat. South Europe.

Remarks. The ἀριστολοχία στρογγύλη of Dioscorides, and the *Aristolöchia* "with an elongated root" of Pliny.

Asarum europæum. *Linn.* *Common Asarabica,* or *Foalfoot.*

Linn. Syst. Dodecandria Monogynia.

The root,—Asarabica.

Vernacular. *Tuckir,* Hind. *Mootricunjayvie,* Tam. *Chepoo-tatakoo,* Tel. *Asaroon,* Arab. By.

Habitat. Temperate Europe, and Northern Asia?

Remarks. The ἄσαρον of Dioscorides, mentioned also by Pliny.

N. O. 165. EUPHORBIACEÆ. *SPURGEWORTS.*

Aleurites triloba. *W.* *Three* (in reality two) *lobed Aleurites.*

Linn. Syst. Monœcia Monadelphia.

The fruit.

Vernacular. *Akola,* Hind. *Akhroot,* Beng. *Japhul,* By. *Karaangolam,* Mal. *Woodooga,* Tel.

Habitat. Bengal, Deccan.

Remarks. Called *Belgaum Walnut* on this side India, but all local English names should be avoided. See "Oils and Oil-seeds."

Briedelia spinosa. W. *Prickly Briedelia.*

Linn. Syst. Polygamia Monœcia.

The bark.

Vernacular. *Mooloo-vangay,* Mal. *Mooloo-venjay,* Tam. *Koraman,* Tel. *Katu-kæta-kæla,* Cey.

Habitat. Assam, Circars, Travancore.

Cicca disticha. *W.* *Long-leaved Cicca.*

Linn. Syst. Monœcia Tetrandria.

The fruit.

Vernacular. *Hurfarori, Chelmeri,* Hind. *Cheramella, Huriphul, Nubaree,* Beng. *Urfalayoorie,* Dec. *Nelli,* Mal. *Cherambola,* Goa. *Arunelli,* Tam. *Racha-usirike,* Tel. *Kata-nelli,* Cey. *Cheremin,* Malaya.

Habitat. Cultivated throughout India.

Remarks. First described by Van Rheede. See "Fruits and Vegetables."

Croton Tiglium. *W. Purging Croton.*

Linn. Syst. Monœcia Monadelphia.

The seed,—Croton seed.

Vernacular. *Jayapala, Nepala, Dunti,* Sans. *Jamalgota,* Hind. Beng. Dec. *Jyal, Rechuk,* Beng. *Cadel-avanacu, Neervaula,* Mal. *Jayapala,* Cel. *Neervalum,* Tam. *Naypalum,* Tel. *Nepaylum,* Cey. *Batoo,* Arab. *Dund,* Pers. *Kannakoh,* Burmah. *Bori,* Malaya.

Habitat. Travancore, Coromandel.

Remarks. *Croton Seed* is also obtained from other species of *Croton*; the term *Granum Moluccum* applied to it should be restricted to the *Croton Pavana* (Ham.) of Ava. Under the name of *Jamalgota* native druggists also sell the seeds of *Croton polyandrum.* (Rox.)

Euphorbia canariensis. *Linn. Canary Spurge.*

Linn. Syst. Dodecandria Trigynia (Monœcia Monandria, *Smith*).

The gum-resin,—Euphorbium.

Vernacular. *Ukeil-nefseh, Firfyoon, Firbeyoon,* Arab. *Sheer-derukht-zekoom,* Pers. *Shia-dzaon,* Burmah. *Sudusudu,* Malaya. *Furbiune,* Morocco.

Habitat. Morocco; the Canaries.

Remarks. Discovered by King Juba of Mauritania, and named by him after his physician Euphorbus. Ainslie's synonymes, viz., *Saynd-ka-dood,* Hind. and Dec., and *Suddray-kullie-paal,* Tam., apply to *E. antiquorum.* (Rox.)

Jatropha Curcas. *W. Angular-leaved Physic Nut.*

Linn: Syst. Monœcia Monadelphia.

The fruit.

Vernacular. *Kanana-kerundum, Nepala,* Sans. *Bay-bherenda,* Hind. Beng. *Erundi,* Dec. *Caak-avenakoo,* Mal. *Mara-narulee,* Can. *Caar-noochie, Caat-amunak,* Tam. *Nepalam, Adivieamida,* Tel. *Rataendaroo,* Cey.

Habitat. South America. Naturalized in India.

Remarks. First mentioned by Monardes. *Jowzul-kowsul* and *Jowz-ul-kie* are given as the Arabic and Persian synonymes in some works, but they belong in my opinion to *Randia dumetorum,* which see.

Phyllanthus Emblica. *W. Shrubby Phyllanthus.*

Linn. Syst. Monœcia Monadelphia..

The fruit,—Emblic Myrobalan.

Vernacular. *Amulki, Umrita,* Sans. *Amla,* Beng. *Aonla, Anooli, Amlaki, Aoongra, Aunwerd,* Hind. *Nelle,* Mal. *Nellie-kai,* Tam.

Userekee, *Woosheriko*, Tel. *Awusada-nelli*, Cey. *Amluj*, Arab. *Amuleh*, Pers. *Boa-malacca*, Malay.

Habitat. East Indies.

Remarks. The μυροβάλανους ἐμπλέτξ of Myrepsicus, according to Sprengel. Compare its synonymes with those of *Cicca disticha*, above.

Ricinus communis. *Linn.* *Castor-oil Plant, Palma Christi.*

Linn. Syst. Monœcia Monadelphia.

The seed,—Castor seeds.

Vernacular. *Eranda*, Sans. *Arendi*, Hind. Beng. *Bherenda*, Beng. *Citavanakoo*, *Avanak*, *Pandiavanak*, Mal. *Haralu*, Can. *Sittamunak*, *Valluk*, Tam. *Amadum*, *Sittamindi*, Tel. *Endaru*, Cey. *Khiroa*, *Cherua*, *Tehscha*, *Zæjt*, *Djar*, Arab. *Beedinjeer*, *Rowgen*, Pers. *Kyet-hsoo*, Burmah, *Jarak*, *Citavanaca*, Malaya and Sumatra.

Habitat. India.

Remarks. The κρότων of Hippocrates, Herodotus, and Dioscorides, also called κίκι by the Greeks, and Ricinus of the Romans, its first Greek and Latin names being derived from its resemblance to a *tick* or *dog-louse*. The *Kikayon* of the Bible is thought to be the *Palma Christi*, but so disputed has this reference been that St. Jerome and St. Augustine, passing from the force of argument to the argument of force, actually exchanged blows on the subject (Pereira). The seeds have been found in the mummy cases of Egypt. Castor oil is the *Palmæ Oleum* of old pharmacologists, and the seeds are the *Semina Catapatiæ Majoris* of the Capitularies of Charlemagne—the *S. Cataputiæ Minoris* being those of *Euphorbia Lathyris*. See also "Oils and Oil-seeds."

Rottlera tinctoria. *Rox.* *Dyers' Rottlera.*

Linn. Syst. Diœcia Polyandria.

The powder which adheres to the capsule,—Kámila.

Vernacular. *Poonnag*, *Poonnaga*, *Keshoor*, Sans. Beng. *Cumul*, Hind. *Toong*, Beng. *Shendree*, By. *Poonnagam*, *Corunga-munjemarum*, Mal. *Capilapodie*, Tam. *Vassuntagunda*, *Chendurapu*, *Veligarum*, *Kunkuma-puova*, Tel. *Ham-parandælia*, Cey.

Habitat. Concans, Travancore, Coromandel, Mysore.

Remarks. *Warrus* is an Indian name given for Kamila in English works. See "Woods" N. O. 144. *Poonag* is the Bombay name of the female of *Calysaccion longifolium* (Wight, N. O. 40, and *Poonnag* and *Poonaga* the Sanscrit and Bengal names of *Alpinia nutans*, Rox.) N. O. 233. *Keysur* is also the Hindee for the *Saffron Crocus*, and *Kesoor* the Hindee and Bengal for *Scirpus Kysoor* (Rox.), N. O. Cyperaceæ. Similar-sounding words also are the names "*in composition*" of many other plants, as *Nagkeshur*, *Kesurvukoola*, &c. See *Crocus sativus*, below. See "Dyes and Colours."

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N. O. 199. URTICACEÆ. *NETTLEWORTS.*

Cannabis sativa. *W.* *Common Hemp.*

Linn. Syst. Diœcia Pentandria.

The herb and the resin.

Vernacular. *Bhanga, Gunjika, Vijya,* Sans. *Bhang,* Hind. *Ganjar,* Beng. *Ganja,* Dec. Tam. Malay. *Tsjeroo-cansjava,* Mal. *Gangah.* Tel. *Mat-kansha,* Cey. *Kinnub,* Arab. *Bin,* Burmah. *Guiji-lacki-lacki,* Malay. *Kinnabis, Defroonus,* Yonanee.

Habitat. Caucasus, Hindoo Koosh, Himalayas. Cultivated in Europe for its fibre, and in Africa and Asia for the sake of its narcotic properties.

Remarks. The κάνναβις of the Greeks. Herodotus (Book iv. chs. 74 and 75) mentions its seeds being used by the Scythians as a narcotic, and Dioscorides that its expressed juice cures headache. In India the herb is used as "the increaser of pleasure," "the assuager of grief," "the causer of laughter and a reeling gait," under several forms, as *Gunjah* the dried plant, after having flowered, and from which the resin has been taken; *Bang, Subjee, Sidhee,* larger leaves and capsules without the stalks, &c. The *Hashish* of the Arabs consists of the tender tops of the plant after flowering. The resin in India is called *Churrus* and *Momeea,* the latter the finer. *Bhanga* is the name also of *Verbesina prostrata,* N. O. 120. Adamson and Royle suggest that the νήπενθες of Homer (Od. iv. l. 221) may have been Hemp. Saffron, Elecampane, Mandrake, and Dwale have also been suggested by others. Homer, in truth, can mean no particular substance by νήπενθες, but only the quality of some substance, for he uses the word as an epithet, not as a name. He sings simply of a φαρμακὸν νήπενθες, "*a drug banishing sorrow*, worth allaying, and causing oblivion of all evils." Nepenthes can therefore no more be a drug than the word ἄκολον or any other of the epithets in the description. The paregoric medicament referred to, however, may have been some potion of *Cannabis*, but I believe not. Pope translates the passage referred to thus:—

> "Meantime with genial joy to warm the soul,
> Bright Helen mixed a mirth inspiring bowl.
> Temper'd with drugs of sov'reign use t'assuage
> The boiling bosom of tumultuous rage.
> These drugs, so friendly to the joys of life,
> Bright Helen learn'd from Thone's imperial wife;
> Who swayed the sceptre where prolific Nile
> With various simples clothes the fatten'd soil,
> From Pæon sprung, their patron-god imparts
> To all the Pharian race his healing arts."

Now it was at Thebes that Menelaus sojourned in Egypt, and Helen learnt to mix this virtuous bowl. Diodorus likewise tells us that a potion, having the power to drown all care, was a secret which the Theban women made their glory; and, as Homer tells us, the Egyptians were emphatically a nation of druggists. It is clear, then, that of all the ancients they must have known opium ; and as to this day the *Somniferous Poppy* is known as *Papaver Thebaicum, Confection of Opium* as *Confectio Thebaica,* and *Tincture of Opium* or *Laudanum* as *Tinctura Thebaica,* there can be little doubt that whatever other ingredients Helen's bowl may have contained, the active principle in it was Opium in one shape or another. Elecampane or Enula-campana, is the root of *Inula Helenium* (W.) which is said to have derived its name from the use made of it by Helen, and by others to have sprung from her tears. The roots may be found in the *bazar* under the names of *Ulaneeyoon, Ussul-ul-rasun,* Arab. and *Beykh-zunje-beel-shamee,* Pers. The Arabic name *Kinnub,* through the Dutch corruption *Hennep,* is the origin of the English word *Hemp.* Burchell, Du Chaillu, and Burton all testify to the use of Hemp as a narcotic in South and Central Africa. See "Narcotics."

N. O. 207. PIPERACEÆ *PEPPERWORTS.*

Chavica roxburghii. *Mig. Long Pepper.*

Linn. Syst. Diandria Trigynia.

The dry immature fruit,—Long Pepper ; and the root.

Vernacular. *Pippuli, Khrishna-pippuli?* Sans. *Pippul, Pilpul, Felfildraz,* Hind. *Pipilie,* Dec. *Tipilie,* Tam. Cey. *Peepal, Pippuloo,* Tel. *Tippili,* Cey. *Darfilfil,* Arab. *Filfildraz,* Pers. *Peik-khyen,* Burmah. *Chabai-jawa, Tabee,* Malaya. The root, *Pippula moola,* India.

Habitat. India.

Remarks. Probably the πέπερι μακρὸν of Dioscorides. *Peepūl* is also the name of the familiar *Urostigma religiosum.* See "Condiments and Spices."

Cubeba officinalis. *Mig.*

Linn. Syst. Diandria Trigynia.

The berry,—Cubebs.

Varnacular. *Sugandha-muricha,* Sans. *Timmue,* Nepal. *Cubabchinee,* Hind. Dec. *Dumkee mirchie,* Hind. *Komoonkoos,* Mal. *Val-mellaghoo,* Tam. *Salavamirrialoo,* Tel. *Wal-gummeris,* Cey. *Kubabeh,* Arab. *Kibabeh,* Pers. *Kurfiyoon,* Yonanee. *Sinbankarawa,* Burmah *Komoon-koos,* Malaya.

Habitat. Bantam. Cultivated in Lower Java.

Remarks. Pereira believes this article to be the μυρτίδανον of Hippocrates "for 1*stly*, the remedy termed μυρτίδανον is distinguished from pepper (πέπερι) and is said to be *a round Indian fruit which the Persians call pepper* ; 2*ndly*, the modern Greek (*Pharma, Græca,* Athenis, 1837) name for Cubebs is μυρτίδανον." The *Myrtidanum* of Dioscorides and Pliny was a medicament prepared by boiling wild myrtle berries in must.

Piper nigrum. *W. Black Pepper.*

Linn. Syst. Diandria Trigynia.

The root.

Vernacular. The plant and fruit: *Vellajung, Mureechung, Kolukung, Muricha,* Sans. Beng. *Goolmurich, Filfilgird, Mirch,* Hind. *Choca, Kaly-mirchingay,* Dec. *Mellaghoo,* Tam. *Moloovookodi, Mirialoo,* Tel. *Gammiris,* Cey. *Filfiluswud,* Arab. *Filfil-seeah, Pilpil,* Pers. *Babaree,* Syrian, *Nya-yoke-koun,* Burmah. *Lada,* Malaya, The root: *Schevika !* Sans. *Choia-ke-jur,* Dec. *Shevium,* Tam. *Chubuck,* By.

Habitat. East Indies.

Remarks. Τὸ πέπερι στρογγύλον of Theophrastus; πέπερι τὸ μέλαν of Dioscorides; and *Piper* of Pliny. Hippocrates also mentions it. The Greek, Latin, and English name is from the Sanscrit for Long Pepper. The Bombay name of the root is probably erroneous, being perhaps traversed from the Persian for *Salicornia arabica,* N. O. 171. The sweet-scented male catkins of *Salix ægyptiaca,* N. O. 209 Salicoceæ, are much used in the East for the preparation of a medicated water called *Kalaf.*

N. O. 210. ALTINGIACEÆ. *LIQUIDAMBARS.*

Liquidambar orientale. *Mill. Oriental Liquidambar.*

Liquidambar Altingia. *Blume.*

Liquidambar Styraciflua. *Linn. Sweet-Gum Tree.*

Linn. Syst. Monœcia Polyandria.

The balsam,—Rose Malloes, Copalm Balsam, Liquidambar, Bukhur oil, Incense oil, Liquid Storax, Solid Storax.

Vernacular. *Sillarus Meih-seela,* Hind. Guz. Pers. *Usteruck, Meati-lubani, Salajet, Meah, Sillarus,* Arab. *Cotter mija,* Arab. and Turkey. *Kara-ghyunluk-yaghy,* Turkey. *Rasamalla,* Malaya.

Habitat. L. orientale,—Cyprus, Anatolia. *L. Altingia,*—Java. *L. Styraciflua,*—The Confederated States of America; Mexico.

Remarks. The balsam of these three trees is one, although known by different names in different parts of the world; and that obtained from the two first is what passes in Europe under the name of Storax, and with the reputation of being the στύραξ of Hippocrates, Theophrastus, and Dioscorides, and the *Styrax* of Pliny which has been referred to *Styrax officinale,* Linn. N. O. 126. (See above.) This tree, a native of the Levant, Palestine, Syria, Greece, does not now produce any balsam, and consequently the officinal article must now be attributed to *Liquidambar* species. It has accordingly been generally accepted that classical

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Storax does not now exist in commerce, but, perhaps, this is too hasty a conclusion, for although no balsam is now obtained from *S. officinale*, it does not follow that the *στύραξ* of the Greeks, and *Styrax* of the Romans, was obtained exclusively from that tree; and, indeed, the probability is that they also obtained it from *L. orientale*, considering the coincidence of its geographical distribution and properties; and it is not impossible that they were also acquainted with the identical product of Java. Liquidambar is more exquisite and powerful in odour than even Benzoin, of which also the ancients are said to have been ignorant. This may be as regards the latter substance, but as respects Liquidambar, at least that of Cyprus and Anatolia, it may be seriously doubted, and it must be on better evidence than any yet afforded that the *Storax* of modern Europe and the *Rose Malloes* of the Bombay Tariff is deprived of the additional aroma of classical association. The Greeks to this day call the balsam of the Cyprus plant *στύραξ ὑγρὰ*. Its bark is the *Xylon Effendi* of the Cypriots and *Cortex Thymiamatis* vel *Thuris* of European druggists. In Bombay *Sillarus* and *Salajet* are the common names of Rose Malloes, with *Usturuk* as a synonyme. It comes from Java, the tariff term being a trade corruption of the Malaya name *Rasamalla*. Such "fantastic tricks" are common in commerce, but this is one of the most instructive, excepting only the conversion by our merchants of *Shakasi* or *Tree* (that is recent, as opposed to semi-fossilized), into *Jackass Copal*. *Usturuk* is also the name of a wood used in Bombay by Parsees as incense, and this I have, under N. O. 126, referred to *S. officinale*. The *Solid Storax* of commerce is probably the resinous portion of *Liquid Storax* mixed with saw-dust or bran. The *νάσκαφθον* or *νάρκαφθον* of Dioscorides, probably the same as the *λάκαφθον* of Paulus Æginota, is by some considered the bark of *S. officinale*. Hanbury says it is not that of *L. orientale*, but from the description of Dioscorides it would appear more likely to be the fruit of some *Liquidambar*. Dioscorides says it came from India. I know nothing like it in Bombay except *Maida-luckrie*. It is remarkable that Sprengel in 1807 writing of the *Miah* of Avicenna states "hæc est arbor *Rasamala* quæ storacem liquidum largitur e rimis corticis emanantem." See "Gums and Resins."

N. O. 212. CUPULIFERÆ. *MASTWORTS.*

Quercus Ballota. *W. Barbary Oak.*

Linn. Syst. Monœcia Polyandria.

The acorn.

Vernacular. *Shah-bulloot*, *Buloot-ul-mulk*, Pers.

Habitat. Spain, Morocco, Greece.

Remarks. Sprengel is not sure whether this or the *Dyer's Oak* is the *δρῦς ἡμερὶς* of Theophrastus. Dioscorides mentions an oak, and Pliny thirteen kinds of acorns. The ancients appear to have included all gland-bearing trees under the term Quercus.

Quercus infectoria. *Oliver. Dyer's* or *Gall Oak.*

Linn. Syst. Monœcia Polyandria.

The gall,—Nut galls.

Vernacular. *Majoophul*, Sans. Hind. *Maapul*, Dec. *Machakai*, Tam. *Uffes*, Arab, *Mazoo*, Pers. *Pyeentagar-ne-thee*, Burmah. *Majakanee*, Malaya.

Habitat. The Levant Anatolia, Karmania, Aleppo, Algezireh, Kourdistan.

Remarks. Hippocrates first mentions the nut gall under the name of κηκίς. The *East India Galls* of commerce are *Bussorah Galls* re-exported from Bombay. *Mecca Galls* are also *Bussorah Galls*. See also "Tans."

N. O. 220. CONIFERÆ. *CONIFERS.*

Cupressus sempervirens. *W. Common Cypress.*

Linn. Syst. Monœcia Monadelphia.

The cone.

Vernacular. *Suroo*, *Shujrudal*, *Sarass*, Hind. *Saruss*, Beng. *Sujrut-ul-hueyat* (Tree of Life). Pers.

Habitat. Candia. Cultivated widely.

Remarks. The κυπάριττος εὐώδης of Homer, κυπάρισσος of Theophrastus, and Dioscorides, and the Gopher-wood, some insist, of which the ark was built.

Pinites succinifer.

Linn. Syst.

The resin fossilized,—Amber.

Vernacular. *Kepoor*, Hind. *Karooba*, Pers. Hind. Dec. *Umbir*, Tan. *Kernulbehr*, *Inketreeyoon*, Arab. *Ambar*, Malaya. *Nambu*, Japan. *Jantar*, Russia.

Situs. The sea-beach of the Baltic, Cape Kohin, Sicily, Japan? Maryland.

Remarks. Thales of Miletus, B.C. 600, noticed the electric property of Amber. Dioscorides mentions it under the name of ἤλεκτρον as probably the resin of the *Black Poplar*. It was the *Succinum* of the Romans. The word ἤλεκτρον occurs also in Hesiod, Homer, Herodotus, and Hippocrates, but from the vagueness of their references it cannot be positively ascertained that they mean amber, *electron* having also been an ancient alloy of gold and silver. The *Karabe* of Avicenna appears not to be *Amber*, but the Balsam of some species of Poplar, for he describes *Ambra* separately, and Ebn Baithai says that *it* (*Ambra*) is not the resin of the Black Poplar as had been supposed. See "Gums and Resins."

Pinus Pinea. *W. Stone Pine.*

Linn. Syst. Monœcia Monadelphia.

The seeds,—Pine Nuts.

Vernacular. *Chilghoza,* Pers. *Chilgoja,* Hind.

Habitat. South Europe ; Ravenna.

Remarks. These seeds are the κόκκαλοι of Hippocrates, and πιτυΐδες of Dioscorides. The tree is the πίτυς of the Greeks, and πεύκη κωνοφορὸς of Theophrastus. Royle says the *Chilghosa* of Cabul may be *P. gerardiana.*

Pinus sylvestris. *Linn. Scotch Pine.*

Pinus palustris. *Lamb. Swamp Pine.*

Pinus Tæda. *Lamp. Frankincense Pine.*

Linn. Syst. Monœcia Monadelphia.

The oleo resin,—Common Turpentine ; the volatile oil,—Oil of Turpentine, Spirits of Turpentine. Essence of Turpentine ; the resin,—Yellow-Rosin, and Black-Rosin or Colophony ; and the products of destructive distillation,—Tar (liquid), and Pitch (solid).

Vernacular. ?

Habitat. P. sylvestris, Northern Europe ; *P. Tæda,* Virginia ; *P. palustris,* the Confederated States of America.

Remarks. The τέρμινθος or τερέβινθος of Hippocrates, Theophrastus, and Dioscorides is considered to have been the *Pistacia Terebinthus* (W.), or *Chian Turpentine* tree. But the ancients may have included *Common* and other Turpentines under that term, or at least must have known *Common Turpentine,* as Tar is the πίττα of Theophrastus, and κῶνος or πίσσα ὑγρά of Dioscorides, and Pitch the πίσσα ξηρά and παλίμπισσα of the latter. He also mentions Pine Nuts (πιτυΐδες) the seeds of *Pinus Pinea* (De C.), *Stone Pine ;* and ζώπισσα (Zopissa of Pliny), a mixture of Pitch mixed with wax scraped off the bottoms of sea-going ships. Pliny describes several Pines, including probably *Larix europæa* (De C.), *Common Larch ; Pinus sylvestris ;* and *Abies excelsa* (De C.), *Norway Spruce Fir ;* and he mentions Rosin, and describes the preparation of Tar and Pitch. The *Scotch Pine* is the source of *European Common Turpentine ;* the *Swamp* and *Frankincense* Pines of *American ; Bordeaux Turpentine,* and *Galipot Tar* and *Pitch* are from *Pinus Pinaster* (Lamb), *Cluster Pine. Venetian Turpentine* is from *Larix europæa,* which is also the source of Orenburgh-gum and Briançon-manna. *Strasburgh Turpentine* is now obtained from *Abies Picea* (Lind.), *Silver Fir. Thus* or *Common Frankincense* (Abietis Resina, *Phar. Lond.*) and *Burgundy Pitch* (Pix Abietina, *Phar. Lond.*) are from *Abies excelsa ;* and *Canada Balsam* from *Abies Balsamea* (Lind.), *Balm of Gilead Fir. Essence of Spruce* is prepared from the tops of *Abies nigra* (Michaux), *Black Spruce,* and is used in making Spruce Beer. See also "Gums and Resins."

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Juniperus communis. *Linn.* *Common Juniper.*

Linn. Syst. Diœcia Monadelphia.

The berry.

Vernacular. *Abhul, Hoober,* Hind. *Bilhara, Pudma, Pumaroa,* Netee Pass. *Ahuber,* Sindh. *Hub-ul-urur,* Arab. *Arkonas, Baratee,* Yonanee.

Habitat. North of Europe; Himalayas.

Remarks. The ἀρκευθὶς of Hippocrates was (Pereira) the fruit of a *Juniper.* Sibthorp thinks (Pereira) that the ἄρκευθος μικρὰ of Dioscorides was a species of *Juniper,* and Fraas that his κέδρος μικρὰ was the actual *Common Juniper.* Theophrastus mentions three kinds of κέδρος, but Sprengel refers none to the present species, although he considers them all of this genus. The *Juniper Resin* or *Sandarach* of commerce exported from Mogadore, is the produce of the *Callitris quadrivalvis* (Vent.) or *Jointed Arbor Vitæ.* It is the *Sandaracha arabum* of old writers, their *Sandaracha græcoram* being Realgar.

N. O. 421. TAXACEÆ. *TAXADS.*

Taxus baccata. *W.* *Common Yew.*

Taxus nucifera. *Royle,* Hima. Bot. p. 353.

Linn. Syst. Diœcia Monadelphia.

The leaf.

Vernacular. **T. baccata**, *Thoono,* Hind. **T. nucifera**. *Tooner,* Hind. The leaf,—*Birmee, Zirnub-birmee,* Hind.

Habitat. *T. baccata,* Britain. Himalayas: *T. nucifera,* Himalayas.

Remarks. *T. baccata* is the σμίλαξ, θυμάλος, and τάξος of the Greeks; and *Taxus* of Pliny.

N. O. 225. SMILACEÆ. *SARSAPARILLAS.*

Smilax China. *W.* *Chinese Smilax.*

Linn. Syst. Diœcia Hexandria.

Vernacular. *Choob-chenee,* Hind. *Shook-cheena,* Beng. *Paringay,* Tam. *China-alla,* Cey.

Habitat. China.

Remarks. First mentioned by Thevetius. See also "Starches."

N. O. 230. ORCHIDACEÆ. *ORCHIDS.*

Eulophia ——— ?

Linn. Syst. Gynandria Monandria.

The root,—Oriental Salep.

Vernacular. *Salep misree,* Arab. Hind. Dec. *Khusyat-ul-salib, Khusyat-al-kulb,* Arab. *Orkis, Saturyoon, Turphyla,* Yonanee.

CSL

Habitat. Cabul? and Cashmir?

Remarks. The ὄρχις of Theophrastus, Sprengel makes *Orchis Morio* (W.), *Meadow Orchis.* Dioscorides mentions two kinds of Salep under the name of ὄρχις, and a third, which he says is called σατύριον, or τριφύλλον. *O Morio; O. mascula* (W.), *Early purple Orchis; O. papilonacea,* (W.) *Butterfly Orchis; O. coriophora* (Per.); and *O. undulatifolia,* (Per.), all probably yielded classical Salep, and the two first, and *O. militaris.* (W.), *Military Orchis,* produce the best Salep in Europe. The source of oriental *Salep* is not determined, but Royle conjectures it to be derived from species of *Eulophia;* probably *E. vera* and *E. campestris. E. bicolor,* Dalz. is the *Amberkund* of this Presidency.

N. O. 233. ZINGIBERACEÆ. *GINGERWORTS.*

Alpinia Galanga. *Swartz. Loose-flowered Alpinia.*

Linn. Syst. Monandria Monogynia.

The root,—Greater Galangal.

Vernacular. *Koolunjuna, Sogunda-yoga, Dhumoola,* Sans. *Koolinjan.* Hind. Beng. Dec. *Pankejur,* Dec. *Chitta-ratta,* Mal. *Pere-aretei,* Tam. *Doomprastacum,* Tel. *Mahakaluwala, Heenkaluwala,* Cey. *Khusroo-daroo, Khowlinjan, Koleejan,* Arab.

Habitat. Sumatra, Java.

Remarks. Mentioned by Avicenna. Fraas suggests whether it may not be the *Cyperus Babylonicus* of Pliny. The same Indian synonymes include *Lesser Galangal,* the root of *A. chinensis* (Ros.), a native of China; and *Light Galangal* the root of *A. nutans* (Ros.), *Nodding Alpinia,* a native of the East Indies generally. The root also of *Kæmpferia Galanga* (Linn.), is often also substituted for true *Galangal* in India itself. It is quite a spurious article. "English Galangale" of writers on "Domestic Medicine" is the root of *Cyperus longus,* N. O. 265.

Costus speciosus. *Rox. Showy Costus.*

Linn. Syst. Monandria Monogynia.

The root.

Vernacular. *Kemboo, Kemooka,* Sans. *Keoo,* Hind. Beng. *Tsjanakua,* Mal. *Bomma-kachica, Pushkara,* Tel. *Tebu-gas,* Cey.

Habitat. East Indies.

Remarks. This and *C. arabicus,* Linn., a native of both Indies, were once thought to be the sources of Costus.

Curcuma æruginosa. *Rox. Green-rooted Turmeric.*

Linn. Syst. Monandria Monogynia.

The root.

Vernacular.

Habitat. Pegu.

Curcuma Zedoaria. *Rox.*

Linn. Syst. Monandria Monogynia.

The tuber,—Zedoaria rotunda.

Vernacular. *Nirbisha, Apavisha, Vishaha, Vunahuridra, Shoolika, Sholee,* Sans. *Nirbisi, Nirabisi, Jungli-huldee,* Hind. *Bun-huldee,* Beng. *Nirbisi,* Dec. Can. *Ambi-huldee,* Dec. *Cawa,* Mal. *Castoorie-munjil,* Tam. *Tella-castoorie-passoopoo,* Tel. *Judwar, Zedwar, Mahfirfeen,* Arab. *Tomon* ? Malay.

Habitat. India within and beyond the Ganges, the South Asiatic Islands, and China.

Remarks. This is the *C. aromatica* of Salisbury. If it is not the true Zedoary, its synonymes must be transferred to the plant hereafter identified with that celebrated drug. *Nirbisi* is a name of *Kyllingia monocephala,* and *Burra-nirbisi* of *Scirpus glomeratus,* both N. O. Cyperaceæ.

Curcuma Zerumbet. *Rox. Zedoary,* or *Broad-leaved Turmeric.*

Linn. Syst. Monandria Monogynia.

The tuber,—Zedoaria longa.

Vernacular. *Carchuraca, Carchura, Sathi,* Sans. *Kuchoora, Kakhura, Kakhur,* Hind. *Carchuramu, Sati,* Beng. *Capura,* Ordoo. *Cachur, Carachur,* Punj. *Kutchoora,* Guz. Dec. Can. *Katoninschi-kua,* Mal. *Palang-killungu, Capoor-kichlie*? Tam. *Kasturipasupu, Kuchoora, Kichlie-gudda,* Tel. *Wal-kaha, Hinhoroopecalliculla,* Cey. *Zerumbad,* Arab. *Tomon*? Malay.

Habitat. Concans, Malabar, Chittagong, Bantam.

Remarks. The *C. Zedoaria* of Roscoe.

Hedychium spicatum. *Royle.*

The tuber.

Vernacular. *Seer, Suttee, Kupoor-kuchree, Sidhoul,* Hind.

Habitat. Himalayas.

Remarks. Now *Globba Sidhoul.*

Kæmpferia rotunda. *Linn. Round-rooted Galangale.*

Linn. Syst. Monandria Monogynia.

The tuber,—False Zedoary.

Vernacular. *Bhuchampaca, Bhoomichampaca,* Sans. *Buneampa, Chambak,* Hind. *Booie-champa,* Hind. Mal. ? *Melan-kua,* Mal. *Kaha, Saukenda,* Cey.

Habitat. ? Cultivated throughout India.

Remarks. Probably confounded by Avicenna with *A. Galanga.* This was supposed the source of the Zedoaries until Roxburgh traced them to his two Curcumas above noted.

Zingiber Cassumanar. *Rox. Downy-leaved Ginger.*

Linn. Syst. Monandria Monogynia.

The tuber,—Zedoaria flava, Cassumanar.

Vernacular. *Vana-adrukum,* Sans. *Bun-ada,* Hind. Beng. *Karpooshpa,* Tel.

Habitat. East Indies.

Zingiber Zerumbet. *Roscoe. Broad-leaved Ginger.*

Linn: Syst. Monandria Monogynia.

The tuber,—Zerumbet.

Vernacular. *Booteh, Mahaburree-booteh, Buch, Mahaburree-buch,* Hind. and Beng. *Wal-inguru,* Cey.

Habitat. East Indies.

Remarks. *Booteh* is also a name of Maize, and *Buch* of Sweet Flag.

———————— ?

Linn. Syst. Monandria Monogynia.

The root.

Vernacular *Deroonuj-akrubee,* Arab.

Habitat. ?

Remarks. This root has been referred to *Doronicum Pardalianches,* (W.), *Great Leopard's Bane* of Britain, N. O. 120, and the ἀκονιτὸν of Theophrastus according to Fraas. It appears to me however to be a Gingerwort.

N. O. 236. IRIDACEÆ. *IRIDS.*

Crocus sativus. *Allioni. Saffron Crocus.*

Linn. Syst. Triandria Monogynia.

The dried stigma,—Saffron.

Vernacular. *Kasmirajamma, Kunkuma,* Sans. *Zofran, Keysur,* Hind. *Khoongoomapoo,* Tam. *Khoon-koomapoo, Kunkuma,* Tel. *Kohoon,* ? Cey. *Koorkum, Zafran,* Arab. *Kerkum, Zafaran* ? *Abeer* ? Pers. *Thanwen,* Burmah. *Saffaron, Coonyer,* Malaya.

Habitat. Asia Minor; Cashmir? Naturalized over temperate Europe.

Remarks. The *Carcos* (Calmet) of the "Song of Songs" of Solomon, and the κρόκος of Homer and the Greeks. Hippocrates (Pereira) speaks of the use of Saffron, and Dioscorides describes it. Theophrastus mentions three kinds of Crocus. Crocus, as Dr. Lemprière tells us, was a beautiful youth enamoured of a beautiful nymph, and turned into this flower. *Kunkuma* is also a name of *Rottleria tinctoria* in Telinga. See "Condiments and Spices."

Iris florentina. *Linn. Florentine Iris.*

Linn. Syst. Triandria Monogynia.

The root.—Orris root.

Vernacular. *Irsa*, *Sosun*, Hind. *Jyrsa*, *Ussulus-sosun-ul-assmanjoonee*, Arab. *Beg-banopsha*, Pers. ?

Habitat. South Europe.

Remarks. The ἶρις of Hippocrates, Theophrastus, and Dioscorides. The *Kiddah* of the Bible is translated in the Septuagint *Iris*, but by St. Jerome *Cassia*. The word Iris, according to Calmet, is derived from the Hebrew *Ir*, "one who watches," "an angel," or "messenger of God," and Iris, according to the Greeks, was the "messenger of the gods." Royle considers the *Shushan* of the Bible, translated lily, to be the Iris, and to be the same as the Syriac *Suseana*. The *Orris root* of commerce consists of the rhizomes not only of *Florentine Iris*, but also of *German* and *Pale Turkey Iris*. See also "Miscellaneous" Class.

N. O. 237. AMARYLLIDACEÆ. *AMARYLLIDS.*

Crinum asiaticum. *Linn. Poison Bulb Crinum.*

Linn. Syst. Hexandria Monogynia.

The bulb.

Vernacular. *Vishamandala*, Sans. *Sookhdursoon*, *Burra-kamoor*, Beng. *Nagdoun*, By. *Belluta-pota-tali*, Mal. *Veshimoonghi*, Tam. *Veshamungaloo*, *Keshara-chettu*, *Lakshminarayana*, Tel. *Maha-tolabo*, Cey.

Habitat. East Indies and China.

Remarks. Sprengel thinks this may be referred to by Theophrastus amongst the bulbous plants he describes, Lib. vii. ch. 13. *Nagdoun* is the Hindee for *Artemisia vulgaris*, and the Persian for *Asparagus*.

N. O. 238. HYPOXIDACEÆ. *HYPOXIDS.*

Curculigo brevifolia. *Ait. Hort. Kew.*

Linn. Syst. Hexandria Monogynia.

The root stalk.

Vernacular. *Moosleé-kund*, By.

Habitat. Concans, Malabar Coromandel.

CSL

Remarks. The root stalk of this plant appears to me to be the *Kalamooslee* of the bazars. *Suffaid mooslee* has been referred to *C. orchioides*, but erroneously I believe from an examination of the above plant.

N. O. 242. LILIACEÆ. *LILYWORTS.*

Aloe socotrina. *Lam.*

Aloe vulgaris. *Lam.*

Aloe indica. *Royle.*

Aloe spicata. *Thurnb.*

Aloe litoralis. *Kœnig.*

Linn. Syst. Hexandria Monogynia.

The inspissated juice of the leaf,—Aloes.

Vernacular. *Mushŭbir*, *Eylwa*, Hind. *Oolowaton*, Malaya. *Cariapolum*, Tam. *Bholum*, Tel. *Moosumbir*, Arab. *Sibr*, *Bol-seoh*, Pers. *Tayef*, Socotra. **A. vulgaris**, *Kuttalay*, Tam. *Mok*, Burmah. *Gaharn*, *Oolowaton*, Malaya. **A. indica**, *Gheekomar*, Hind. *Ghrito-komaree*, Beng. *Kuñwar*, Dec. *Kuttalay*, Tam. *Kalabunda*, Tel. *Komarika*, Cey. **A. litoralis**, *Komaree*, Beng. *Chota-kunwar*, Dec. *Siroo-kuttalay*, Tam. *Chinikala bunda*, Tel.

Habitat. *A. socotrina*, Socotra, Caffre Coast? Cape of Good Hope. *A. vulgaris*, the Mediterranean countries, East and West Indies (probably naturalized), Cape of Good Hope? *A. indica*, India. *A spicata*, Cape of Good Hope, India. *A. litoralis*, shores of the Deccan, and Guzerat.

Remarks. Dioscorides and Pliny are the first to describe Aloes, and by its present name. The commercial kinds of Aloes are,—1st, *Socotrine*, *Turkey*, or *Extract of Spiked Aloes* from *A. socotrina*, and probably also *A. purpurascens* (Haworth); 2nd, *Genuine Hepatic*, *Bombay*, or *East Indian Aloes* from the same species probably as the last, and certainly obtained from the Island of Socotra? *Barbadoes Aloes* from *A. vulgaris*; *Cape* and *Caballine Aloes* from the several Cape of Good Hope species above-noted; *Mocha Aloes* probably from the Socotrine species, being the refuse of the market; *Indian Aloes* (not *East Indian*) from various Indian species,—the round cakes from Jafferabad not noticed in any European works, being probably from *A. litoralis*; and *Curaçoa Aloes* probably from *A. vulgaris*. See "Gums and Resins."

Asparagus adscendens. *Rox.*

Linn. Syst. Hexandria Monogynia.

The root.

Vernacular. ?

Habitat. ?

Remarks. Under the head of *Buchnak,* I provisionally referred the root known in England as *Badshah-salep* to this plant. Since then, owing to some *Badshah-salep* having accidentally become moistened and swollen by the rains, I have been forced to conclude that it belongs to some other genus, probably *Allium.* On swelling, it develops a powerful odour like Asafœtida, and more persistent.

Asparagus sarmentosus. *W. Linear-leaved Asparagus.*

Linn. Syst. Hexandria Monogynia.

The root.

Vernacular. *Shetavurrie,* Sans. *Suffaid-mooslie,* Hind. Dec. *Shatawri, Schœdaveli,* Mal. *Tanneer-vittang,* Tam. *Tsulla-ghedaloo,* Tel.

Habitat. The Deccan.

Remarks. Suffaid mooslie is in Bombay the name also of a root which seems to the writer to be that of a species of Spiderwort.

Polianthes tuberosa. *W. Common Tuberose.*

Linn. Syst. Hexandria Monogynia.

The seed.

Vernacular. *Sandhy-araga,* Sans. *Rujuni-gundha,* Beng. *Goolshaboo,* Hind. *Andi-malleri,* Mal. *Undimandari,* Tel. The seed,—*Toodree,* Vulg. ?

Habitat. East Indies.

Remarks. The *Toodree* seed of the Bombay bazar is like that of the *Garden Wall-flower,* and certainly of the same genus, if not species. I have never seen any kind of *Toodree* I could refer to *Polianthes tuberosa!* *Towdree* is also the name of a species of Mallow-wort. See N. O. 30.

Urginea indica. *Kunth.*

Linn Syst. Hexandria Monogynia.

The bulb.

Vernacular. *Jungly-piaz,* Coucans.

Habitat. The sandy shores of the Deccan.

Remarks. Substituted in India for the classical and officinal drug Squills, known in the bazars of India as *Iskeel,* Vulg. *Unsool,* Arab. *Penlay-pa-dein,* Burmah.

N. O. 243. MELANTHACEÆ. *MELANTHS.*

Methonica superba. *Lam. Superb Gloriosa.*

Linn. Syst. Hexandria Monogynia.

The root.

CSL

Vernacular. *Cariari*, Hind. *Ulatchandul, Langool, Eesha-nungula, Kookora-neja*, Beng. *Buchnag, Kalawee, Karianag*, By. *Mendoni*, Mal. *Caateejan, Kartichey*, Tam. *Adavi-nabhi, Pottidumpa*, Tel. *Niyagala*, Cey.

Habitat. East Indies.

Remarks. First described by Hermann. Said to be a substitute for the classical and officinal drug Colchicum. Is it the *Buzeiden* of Avicenna II. 2, 95? There is a large yellow-flowered species on the Mozambique coast, and another with azure flowers in Senegal. *Langool* is also a name of *Commelyna salicifolia*, N. O. 248.

——— ? ——— ?

Linn. Syst. ?

The corm,—Tasteless Hermodactyl.

Vernacular. *Sorinjan shireen*, Pers.

Habitat ?

Remarks. *See* next.

——— ? ——— ?

Linn. Syst. ?

The corm,—Bitter Hermodactyl.

Vernacular. *Sorinjan-tulk*, Pers.

Habitat ?

Remarks. Hermodactyl (ἑρμοδάκτυλος) is first mentioned (Pereira) by Alexander of Tralles (A.D. 560), and Paulus Ægineta (A.D. 650), and Avicenna, Serapion, and Mesue. Two kinds are found in the *bazars* of Asia, and find their way into Europe, the *Tasteless* and the *Bitter*; but their botanical sources and habitat still remain undetermined, although there can be little doubt of their being Melanths. The *Ulfaz Udwiyeh* gives *Asa-ba-noormus*, and *Hulbeeb* (Arab.), and *Soorenjan-hindee* (Vulgar), as synonymes for Hermodactyls.

N. O. 248. COMMELYNACEÆ. *SPIDERWORTS.*

Murdannia scapifolia. *Royle.*

Linn. Syst. ——— ———?

The root.

Vernacular. *Mooslee-seah*, Hind.

Habitat. The Himalayas.

Remarks. I refer provisionally to this plant the root known in Bombay as *Suffaid-mooslie*, which is quite distinct from *Satawree*, of which *Suffaid-mooslie* is given as a synonyme in books. If in this there is no error, Bombay *Suffaid-mooslie* is the same as the *Nelepannay* root, referred

CSL

by Ainslie to *Curculigo orchioides*, N. O. 238; and as the *Tal-moolee*, *Tal-moor*, and *Mohol* of Bengal, and *Nellatady* of the Telingas.

N. O. 251. PALMÆ. *PALMS.*

Areca Catechu. *W. Medicinal Cabbage Tree.*

Linn. Syst. Monœcia Hexandria.

The nut, and the extract from the nut.

Vernacular. *Goovaka*, Sans. *Gowa*, *Oodbeg*, Beng. *Sooparee*, Hind. Beng. Dec. *Paak*, *Camooghoo*, Tam. *Poka*, *Oka*, Tel. *Puwak*, Cey. *Tofil*, Arab. *Kwoon-ben*, Burmah. *Penang*, Malaya.

Habitat. East Indies.

Remarks First mentioned by Avicenna and Serapion. Is one of the sources of the Catechu of commerce. The nut is the *Avellana indica* of old writers. *Sooparee* is also a name of *Rondeletia longifolia*, N. O. 115.

Calamus Draco. *W.*

Linn. Syst. Diœcia Hexandria.

The resin,—Dragon's Blood.

Vernacular. See *Pterocarpus Draco*, N. O. 74.

Habitat. Jambi, Sumatra.

Remarks. *Pterocarpus Draco* of Socotra, and *Dracæna Draco*, N. O. 242, of the Canaries, also yield Dragon's Blood.

Hyphæne thebaica. *Delile. Doûm Palm.*

Linn. Syst. Diœcia Hexandria.

The fruit.

Vernacular. *Oka-mundel*, Diu Island.

Habitat. Egypt; the Island of Diu (introduced?). Cultivated in Bombay as an ornament.

Remarks. This is the κόϊξ of Theophrastus according to Fraas, and *Cucus* of Pliny according to Fee.

Lodoicea seychellarum. *Common Seychelles Lodoicea*, or *Sea Cocoanut.*

Linn. Syst. Diœcia Monadelphia.

The nut,—Coco de mer, Double Cocoanut: *Sedes Cafrorum.*

Vernacular. *Ubdie narikaylum*, Sans. *Dirya-ka-naril*, Dec. *Kad-del-taynga*, Tam. *Samootrapoo-tenkaya*, Tel.

Habitat. The Seychelles, Maldives, and Laccadives? Mahé (cultivated).

N. O. 257. ARACEÆ. *ARADS.*

Scindaspus officinalis. *Schott. Official Scindaspus.*

Linn. Syst. Monœcia Polyandria.

The fruit.

Vernacular. *Guz-peepul*, Beng. *Auna-tippilie*, Mal. *Attie-tippilie*, Tam.

Habitat. East Indies.

N. O. 258. ACORACEÆ. *SWEET-FLAGS.*

Acorus Calamus. *W. Sweet Flag.*

Linn. Syst. Hexandria Monogynia.

The root,—Sweet Flag.

Vernacular. *Vacha, Golomi*, Sans. *Igr, Buch, Kusseb-bewa*, Hind. *Buch, Sufed Buch*, Beng. *Vyamboo, Vashampoo*, Mal. *Vassamboo*, Tam. *Vudza, Vadaga, Vasa*, Tel. *Wadda-kaha-væsamboo*, Cey. *Igghir, Akaroon*, Arab. *Vudge, Ugir-toorkee*, Pers. *Linhay*, Burmah.

Habitat. Nepaul, Malabar, Ceylon, Bourbon, Amboyna.

Remarks. The ἄκορον of Dioscorides, and not, as supposed by Sprengel, the κάλαμος ἀρωματικὸς of that writer, and "sweet cane" of Jeremiah vi. 20. *Buch* is a name of *Zingiber Zerumbet* (Rox.) See "*Andropongo Calamus aromaticus*" in Class "Miscellaneous."

N. O. 265. CYPERACEÆ. *SEDGES.*

Cyperus pertenuis. *Rox.*

Cyperus rotundus. *Linn.*

Linn. Syst. Triandria Monogynia.

The root.

Vernacular. **C. pertenuis**,—*Naga, Nagur-mootha*, Beng. **C. rotundus**,—*Moosta*, Sans. *Mootha*, Hind. Beng. *Motha, Moostaka, Nagur-mootha ?* Dec. *Shaka-tunga*, Tel. *Kalanduru*, Cey. *Sad*, Arab. *Funarus*, Yonanee.

Habitat. India.

Remarks. Probably both these fragrant roots are included among the κύπειρον of Homer, Hippocrates, and Dioscorides. The Arabic and Yonanee synonymes also probably apply to both.

N. O. 266. GRAMINEÆ. *GRASSES.*

Bambusa arundinacea. *Schreb. Common Bamboo Cane.*

Linn. Syst. Hexandria Monogynia.

The silicious secretion deposited in the joints of this and other species, —Tabasheer.

Vernacular. The plant,—*Vungsha*, Sans. *Bans*, Beng. *Mandgay*, Dec. *Kull-moollah*, Mal. *Moonghill*, Tam. *Vedooroo*, *Kichakai*, Tel. *Niee-hindee*, Pers. Tabasheer,—*Bun-lochun*, Hind. *Moonghill-ooppoo*, Tam. *Vedooroo-ooppoo*, Tel. *Una-lee*, Cey. *Tebasheer*, Arab. *Tubsheer*, Pers. *Wah-tai-ga-kyouk*, Burmah.

Habitat. India.

Remarks. Tabasheer is yielded by several species, but I am unable to specify any other than the above plant. Dalzell gives, besides this plant, three other species as common to Bombay, viz., *B. stricta* (Rox.) the "*Bas*" or "*Oodha*" of the natives, of which Boar-spears are made; *B. vulgaris* (Schreb.) the "*Kulluck*" or "*Bamboo;*" and *B. arundo* (Klein.) the "*Chiwaree*" of the Ghâts, familiar to Europeans in the shape of "Mahableshwur walking-sticks." Tabasheer is an article of the greatest antiquarian interest, as Salmasius, Sprengel, and Fee are of opinion that it is referred to, and not sugar, by the ancients, Dioscorides and Pliny for example, where they mention *σάκχαρον* and *Saccharum.* Salmasius states that the saccharum of the ancients, as described by them, had none of the properties of sugar, and was used in ways sugar never could be; and in another place that the *σάκχαρον* of the Greeks was tabasheer "beyond all controversy." Against this dictum the line in Lucan has been cited—.

> "Quique bibunt tenera dulces ab arundine succos,"

as if the bamboo could be a "tenera arundo." But Salmasius quotes this very line, and yet goes on to show by arguments one finds it difficult to refute, although common sense would reject the conclusion, that cane sugar was unknown to the ancients. One would think Pliny's description left little room for doubt; yet Salmasius, by means of a comma, alters its whole meaning. The passage is as follows—"Saccharon et Arabia fert, sed laudatius India; est autem mel in arundinibus collectum, gummium modo candidum, dentibus fragile, amplissimum nucis avellanæ magnitudine, ad medicinæ tantum usum." But, says Salmasius, "ita hæc distinguenda, *collectum gummium modo*, non ut est vulgo *gummium modo candidum*. Hæc omnia prorsum quadrant in tabascir, vel saccharum mambu;"—"it is white, brittle to the teeth, is collected in reeds, is sweet," (!) "and useful in medicine." Dioscorides says that what is called *σάκχαρον* is a kind of concrete honey, found in reeds in India and Arabia Felix, in consistence like salt, and brittle between the teeth like salt. That it is *dissolved in water*, &c. &c. It is difficult to deny that sugar is not here meant, and very hard to consent that Tabasheer is. Pliny, copying from Dioscorides, as is plain, perhaps confused Tabasheer with sugar in his description, and thus has involved the subject in a way well-suited for the exercise of subtle and learned criticism. The Honorable President of the Bombay Branch of the Royal Asiatic Society has suggested to the compiler a reading of Pliny as ingenious as that of Salmasius, and probably more just, inasmuch as it supports the common sense view in the " Sugar Controversy." Placing a full stop where the first semicolon occurs, the Honorable Mr. Frere reads the passage as follows : " Saccharon et Arabia fert, sed laudatius India. Est autem mel in arundinibus collectum, &c." As if Pliny, on mentioning, at once dismissed so familiar an article as "Saccharon," and then went on to describe in detail so rare a substance as Tabasheer must have been. Fee, Sprengel, and Humboldt simply follow Salmasius,—Humboldt very diffidently. A passage from his " Prolegomena de distributione Geographica Plantarum" (quoted in his "Cosmos"), states an opinion all, on reading the whole controversy on sugar, will probably acquiesce in, and is on other accounts worth introducing here. "Confudisse videntur veteres saccharum verum cum Tebaschiro Bambusæ, tum quia utraque in arundinibus inveniuntur, tum etiam quia vox sansceadana *scharkara*, quæ hodie(ut Pers. *schakar* et Hind. *schukur*) pro saccharo nostro adhibetur, observante Boppio, ex auctoritate Amarasinhæ, proprie nil dulce (*madu*) significat, sed quicquid lapidosum et arenaceum est, ac vel calculum vesicæ. Verisimile igitur vocem *scaharkara* duntaxat tebaschirum (*succur nombu*) indicasse, posterius in saccharum nostrum humilioris arundinis *(ikschu, kandeschu kanda)* ex similitudine aspectus translatum esse. Vox Bambusæ ex *mambu* derivatur ; ex *kanda* nostratium voces *candis zuckerkand.* In *tebaschiro* agnoscitur Persarum *schia*, h. e. lac, Sanscr. *Kschiram.*" The Sanscrit name for *tabascher* is *tvakkschirá*, bark-milk. Herodotus, Book xiv. ch. 194, writing of the Gyzantians, observes that in their country " a vast deal of honey is made by bees ; very much more, however, by the skill of men." In a note, Rawlinson states, " bees still abound in the country, and honey is an important article of commerce. A substitute for honey is likewise prepared from the juice of the palm." Sprengel states that the sugar-cane is first mentioned by Abulfaidil, 13th century, and sugar by Moses Chorenensis, A.D. 462 ; and notwithstanding that it must, the writer would apprehend, be mentioned in Hindoo books of a far earlier date, it is not a little remarkable that a Hindee name of sugar is *Cheene.*

N. O. 267. FILICES. *FERNS.*

Adiantum lunulatum. *Spr.*

Linn. Syst. Cryptogamia Felices.

The frond.

Vernacular. *Hunsraj*, *Mobarkha*, Hind. *Shuer-ul-jin* ? Arab.

Habitat. India.

Remarks. The ἀδίαντον of Hippocrates, Theophrastus, and the ancients, is the *Venus* or *Maiden-hair* Fern of Europe; found by Dr. Leith in the Bolan Pass under the name of Gool-i-mairam. Besides this, the following ferns are found in the *bazars* of India viz. :—

Mor-punkhee—**Asplenium radiatum**.
Iskoolikundrion—**Scolopendrium** ?
Doonditarus—**Dryopteris** ?
Surkhus, Bitarus—**Pteris** ?
Bisfaij, Bulookunboon—**Polypodium** ?
Pureseoshun— ———— ?
Bulootingen—**Polytrichum** ?

These references are by Royle.

A

UNIDENTIFIED DRUGS belonging to the MUSEUM COLLECTION.

DRUGS.	REMARKS.
Anchunchuck,—seed	See Customs Tariff.
Aschir,—a grass.	Andropogon, sp ?
Bul-beej,—seed.	
Cubsha	See Customs Tariff.
Goa-Powder.	
Gool-i-gafus	Agrimonia, sp ?
Hub-i-zulum,—fruit	Acanthaceæ ?
Humama,—plant	Saxifragaceæ ? Umbelliferæ ?
Kanoocheh,—seed	Not Carpopogon pruriens.
Kirdaman,—crushed bud ?	Not Conium maculatum.
Koob-kulan,—seed	Sinapis pusilla ?
Kumur-kuss,—seed	Name also of Gum kino.
Mamerran	China. See Tariff.
Mooshk-turch-museed,—plant	Labiatæ ?
Mudun must,—tuber ?	
Ootunjun	Acanthaceæ ? Urticaceæ ?
Powder from Celebes.	
Putravuntee,—kernel.	
Shemby,—bark	See Customs Tariff.
Tukl-beej,—seed.	
Tukmeriah,—seed	From the Persian Gulf.
Vakerao,—seed	Malvaceæ.

B

Drugs determined and undetermined wanted for the Museum Collection. Chiefly taken from the Great Exhibition List prepared by Dr. Royle, 1851.

*** Probably many entered as undetermined, are, under unfamiliar names, identical with drugs already catalogued.

Roots.

Names.	Remarks.
Aboo-kanus	Turkey.
Afeemedoon	Delhi, Surat.
Anarooli.	
Asgund	The kind "Hatrass," of Mirzapore.
Atees	The kind "Bish" of Guzerat.
Atees	The kind "Tirayamen" of Cabul.
Aveel-kusmeree.	
Bekh-atrilal.	
Bekh-kurpus	Delhi.
Bekh-mhuk.	
Bekh-unjubaz	Delhi.
Belamconda.	
Bhang-i-gundana	Allium tuberosum.
Bidhara	Delhi.
Bish	The kind "Kala-koot" of Umritsur
Bozeedan	Surat.
Bunufsha	Viola repens, Cashmir.
Burahee-kund	Hedysarum tuberosum, Cabul.
Burkuk-shirazee	Surat.
Burmooloo ?	
Chaya.	
Chirya-kund	Cashmir.
Chokka	Delhi.
Doodhee	Euphorbia tristis.
Fawania	Pæonia corallina.
Filfil moorbel	Poorab.
Gorkhe-pan.	
Gun-maturee.	
Gurbatas	Delhi.
Gushoona.	
Jamghas	Polypodium ? Surat.
Juntecana	Gentiana ? Surat.
Kacoota-kalung	Madras Presidency.

NAMES.	REMARKS.
Kala-bichwa	Polypodium. Lucknow.
Kamraj	Poorub.
Kana-kuchoo	Truffle.
Keer.	
Kibbur.	
Kitchelly-kapoor.	
Kombhugras	Delhi.
Koondush.	Costus ?
Koothee.	
Kreez.	
Kukoora	Momordica muricata.
Kurkee-pona-ke-jur.	
Kurroo	Gentiana ? Himalayas.
Kutol	Delhi.
Mahmiran	Ranunculus. Cashmir.
Mahmiran-kutai.	
Moela-huldee	Poorub.
Muleem	Himalayas.
Moosli	Every kind procurable.
Nisoth.	
Nur-kuchoor.	
Pata.	Sida acuta.
Peearanga.	
Peligeree	Thalictrum.
Pokhur-mool	Delhi, Punjab.
Poombee-huldee.	
Puharee-huldee.	
Pukhan-bed	Saxifraga ligulata. Himalayas.
Pursoona.	
Rataloo.	
Rutunjot, not Alkanet	Lithospermum ?
Salep-hindee.	
Salsa ? and Falsa ?	Grewia ? Surat.
Satheea	Saharunpore.
Serab.	
Set-burwa.	
Shakakel.	
Shakakel-misree	Egypt.
Shakakul	Cashmir.
Shogun-mentri.	
Songhia.	
Sutawur-suffed	Delhi.
Suttee	Globba Sindhoul. Kangra
Tsuk	Euphorbia. Cashmir.

GSL

NAMES.	REMARKS.
Turasees.	
Unduryan	Colocynthis? Arabia.
Unjbar	Cashmir.
Unjbar-roomee	Bistort.
Urkoh? Arkuree	Sindh.

Woods.

Beejesar, Bijak	Deccan.
Deodar	Pinus Deodar. Himalayas.
Lodh	Symplocos racemosa.
Nima	Simaruba quassioides.
Pudmak	Prunus Puddum. Deyrah.
Tuggur	Delhi.

Barks.

Bharungee	Verbesina prostrata?
Bhojputra	Betula Bhojputra. Himalayas.
Bhumbel	Euonymustingens. Himalayas.
Burkuk-shirazee	Surat.
Dar-sheeshan	Myrica sapida. Himalayas.
Kayree.	
Kheree,—chips.	
Kilioorum	Madras.
Kirfæ	Furruckabad.
Koora	Echites. Kheree Pass.
Koorchee.	
Kunhar-kapost.	
Kusaili	Ajmere.
Lulka.	
Musag	Walnut.
Ooshk-chal.	
Roo.	
Sut-peora, Boorans	Rhododendron arboreum. Himalayas.

CSL

Plant and Leaf.

NAMES.	REMARKS.
Abroon	Labiatæ. Delhi.
Afeenoos.	Delhi.
Akas-bel.	
Aloosureessoon	Surat.
Amareetum.	
Anarooli.	
Arzuk.	
Aspruk	Delphinium.
Ayapana.	Eupatorium Ayapana.
Babai	Ocymum pilosum.
Barunjasif	Artemisia. Nujjibabad.
Barungsudab	Delhi.
Bhirmi-sugan	Delhi.
Bhirmi-vidaya	Delhi.
Bhophullee	Ajmere.
Bhuenphullee.	
Bhunug.	
Berin-dundee.	
Bomadrum.	
Boodunk.	Mentha Pulegium.
Banufsuj	Viola repens. Cashmir.
Burree-boontee.	
Daod murdan	Cassia alata.
Dhool-phoollee	Euphorbia. Delhi.
Dukhun nirbisi	Of Bazars of Umritsir.
Eema wanootalee.	
Foodnuj-burree.	
Furasion piazee.	
Gao-zuban-kohee.	
Gajuba.	
Garikoon	Agaric.
Gugerun.	Grewia hirsuta.
Guggoo-ghiroo.	
Gugundhol.	
Gal-miryun	Adiantum, Cap. Veneris?
Gurgur-muneek.	
Hasha	Delhi.
Hatha-joree	The kind, a Polypodum.
Hishweh.	
Hulimo	Surat.
Jownchee	Delhi.
Julneem.	Delhi.

NAMES.	REMARKS.
Kal-meel.	
Kamohee	Phyllanthus multiflorus.
Kapoor-ke-putta	Meriandra bengalensis.
Khurzeen.	
Khusfer.	
Khutso.	
Khuttoo	Delhi.
Kintooree.	
Kintooryoon	Polycarpa corymbosa. Cabul.
Kishun-gonar.	
Koorund, false.	
Kuchila-ke-mulung	Viscum monoicum. Cuttack.
Laltak.	
Lutopuree.	
Moobarka	Not Mobarka hunsraj.
Mukareh	Euryale ferox.
Nah.	
Nirgund-baburee.	
Oordabeg	Shaharunpore.
Oostookhoodoos	Prunella. Cabul.
Oostukhar	Delhi.
Parput.	
Pata	Corchorus olitorius.
Patree.	
Podenca?	
Poonjee.	
Post-burnee	Hedysarum alopecuroides.
Purol-luttee.	
Purseeaoshan	Not Pureeseeaoshan.
Putol-puttur.	
Ra-senna	Salvadora lanceolata.
Sal-purnee	Shorea robusta.
Singha-koolee.	
Sitawul.	
Sudee.	
Sun-pat.	
Surphonka	The kind, a Galega.
Tootiyæ-haroonee	Herpestes monniera. Delhi.
Uftimoon	Species of Cuscuta.
Umar-bent	Delhi.
Umsookh	Surat.
Undhaolee	Delhi.
Zak.	
Zuck.	

Gums, Resins, and Gum-resins.

NAMES.	REMARKS.
Aprang	Pterocarpus Draco ?
Booraga	Said to be gum of Bombax malabaricum.
Derisana. *See* Seriss-ke-gond.	
Huzeez-mukke	A kind of Benzoin. Surat.
Jingun-ke-gond, or Khunnee-gond	Icica resinifera. Khera Pass.
Kirasia !	Cherry Gum. Surat !
Ladun !	Labdanum. Surat !
Naguoree gond	Alalle archea. Nagora.
Nishasteh	Mirzapore.
Pudam-ke-gond	Cerasus Puddum.
Sem-ke-gond. Gota-gond ..	Bauhinia gummifera. Derya.
Siriss ke-gond	Mimosa Serissa.
Toon-ke-gond	Cedrela Toona.
Ungoor-ke-gond..	Vites vinifera.
Zurdaloo..	Prunus Chooloo.

Galls.

Makee-khoord.	
Sumur-kokla	Poorub.

Flowers.

Bhai-phamba.	
Bol-ke-phool.	
Gool-gajuba.	
Goontee.	
Moondhee	Sphæranthus indicus.

Fruits and Seeds.

Ahlub	Surat.
Amchou	Bengal.

DRUGS.

NAMES.	REMARKS.
Thy-gul.	
Tooree-siah.	
Tukhm gandah	Delhi.
Tukhm kurpus.	
Tuntereeh	Rhus parviflorum.
Ufrunjeh	Urticaceæ.
Ukhburoos	Coix indica.
Urjan.	
Wood.	
Wunga-tukhm	Cucurbitaceæ.
Zubeel-ool-jubbul	Delphinium staphisagria.
Zuetoon	Olia Zytoon.
Zuhr.	

DIVISION I.

Class 3. A.

AGRICULTURAL PRODUCE.

a Cereals.

N. O. 266. GRAMINACEÆ. *GRASSES.*

Andropogon saccharatus. *Rox.*

Linn. Syst. Triandria Digynia.

Vernacular. *Deodhan,* Hind. *Shaloo,* Dec.

Habitat. East Indies. Cultivated throughout India during the rainy and cold seasons.

Remarks. This is thought to be the same as *Holcus saccharatus,* Linn., the *Taam* of Egypt, and which includes *H. Dochna,* Forsk., the *Dochn* of Arabia and Egypt; *H. caffrorum,* Thunb.; and *Sorghum arduini,* Jacq. *Imphee* is probably another variety: and all, perhaps, are derived from a common parent with *Sorghum vulgare,* Pers.

Eleusine Coracana. *Gært.* *Thick-spiked Eleusine.*

Linn. Syst. Triandria Digynia.

Vernacular. *Rajika, Lala, Sirinika,* Sans. *Maud,* Hind. *Marooa, Murha,* Hind. Beng. *Nanguli,* Sindh. *Mundul,* Kangra. *Natchnee, Nagla, Ragee,* Dec. *Mootamy, Tsjetlipulle,* Mal. *Raggi,* Can. *Kaywur, Kelwaragoo, Keppai, Kiviru,* Tam. *Sodi, Tamidaloo, Ponassa, Chola, Ragalu, Tami,* Tel. *Kurakkan,* Cey. *Mandwah,* Pers.

Habitat. Egypt, East Indies, South America. Cultivated in India during the rains.

Hordeum hexastichon. *Rem. et Schult. Winter Barley.*

Linn. Syst. Triandria Digynia.

Vernacular. *Situshooka, Yuva,* Sans. *Jow,* Hind. *Jub,* Beng. *Yoa,* Kangra. *Tose,* Nep. *Satoo,* Dec. *Barleee-arisee,* Tam. *Java, Yavala,* Tel. *Mu-yan,* Burmah. *Schœir,* Arab. *Sjœir,* Egypt.

Habitat. ? Cultivated during the cold season in favourable localities.

Remarks. Pliny informs us that *barley* "is one of the most ancient aliments of mankind." It was the original prize of the victors at the Eleusinian games. Barley is mentioned, Exod. ix. 31 ; and by Herodotus, who informs us (bk. ii. ch. 77) of the Egyptians that "their drink is a wine which they obtain from barley, οἶνος ἐκ κριθέων as they have no vines in their country." Pereira states that Hippocrates mentions three kinds of barley, "probably *H. vulgare, H. distichon,* and *H. hexastichon;*" species commonly cultivated in England.

Oryza sativa. *W. Common Rice.*

Linn. Syst. Hexandria Digynia.

Vernacular. *Arunya, Dhanya, Unoo, Tanneola, Ashoovrihi,* Sans. *Chawl,* Hind. Dec. *Sari,* Sindh. *Dhan. Pusnee.* Hind. Beng. *Payera,* Mal. *Arissee, Nelloo,* Tam. *Beeum, Cheni, Oori, Urloo, Mattakarulu, Nevari-dhanyamu,* Tel. *Wee,* Cey. *Saba,* Burmah. *Shali,* Pers. *Rooz, Aroos,* Egypt. *Brass,* Malaya.

Habitat. ? Cultivated in India in two crops a year, the first being sown in the rains, the second in the cold season. Cultivated also in the Eastern Archipelago, China, and Asia generally, South Europe, and Central America.

Remarks. Wild rice in India is known by the following names, *Nivara,* Sans. *Newaree,* Tel. *Ooruvee,* Cey. About fifty varieties are cultivated in this Presidency, and in Ceylon so many as 160 distinct varieties are recognized. *Oobala chowl* is rice which has been boiled in the husk. Theophrastus and Dioscorides and Pliny mention rice under the names respectively of ὄρυζον, ὄρυζα, and *Oryza.* "In India," says Pliny, "rice is the most favourite food of all." *Oryza nepalensis* is the *Upland Rice* of Nepaul.

Panicum flavidum. *W.*

Linn. Syst. Triandria Digynia.

Vernacular. *Burti,* Poona.

Habitat. Common everywhere in India.

Remarks. I am doubtful of this identification.

Panicum frumentaceum. *Rox.*

Linn. Syst. Triandria Digynia.

Vernacular. *Shyamaka,* Sans. *Shama,* Beng. *Soak,* Kangra. *Sawa, Sanwa,* Hind. *Saou,* Sindh. *Shamoola, Kathlee,* Dec. *Samai,* Tam. *Bontashama, Boragu,* Tel. *Bajri,* Pers.

Habitat. Cultivated in India in a succession of crops from June to January.

Panicum italicum. *Rox.*

Linn. Syst. Triandria Digynia.

Vernacular. *Kungoo, Priyungoo,* Sans. *Kungoo, Kangni, Rala,* Hind. Beng. *Rawla, Beertia, Kakoon,* Hind. *Kerang,* Sindh. *Korakang, Chennah,* Dec. *Bajiree,* Guz. *Navonay,* Can. *Tanna,* Mal. *Tenney,* Tam. *Kora, Koraloo,* Tel. *Tanahal,* Cey. *Gal,* Pers. *Kala-kangnee,* India (Lindley).

Habitat. Cultivated in Southern Europe, North America, and the East Indies.

Remarks. The κέγχρος of Hippocrates, and *milium* of Pliny, according to Sprengel, both of which Fraas, however, refers to *P. miliaceum.* Sprengel also believes it to be the ἔλυμον of Galen.

Panicum miliaceum. *Rox. Millet.*

Linn. Syst. Triandria Digynia.

Vernacular. *Vreehib-heda, Unoo, Varaka,* Sans. *Chennah, Sawa, Sama,* Hind. Beng. *Chinee,* Sindh. *Sawee, Warree,* Dec. *Katacuny, Samai,* Tam. *Varaga, Varagalu, Boragu, Boragulu,* Tel. *Worga, Worglo, Dokhn?* Arab. *Arzan,* Pers.

Habitat.? Cultivated throughout India.

Remarks. The "milium" of Pliny, according to Fraas; others refer it to his "panicum." Fraas refers the "panicum" of Pliny, as well as the ἔλυμος of Theophrastus, and ἔλυμος ἢ μελίνη of Dioscorides, which others have referred to *P. miliaceum,* to *Sorghum cernuum.*

Panicum miliare. *Lam.*

Linn. Syst. Tetrandria Digynia.

Vernacular. *Nella-shama, Nella-shamaloo,* Tel.

Habitat. Said by Roxburgh to be generally cultivated throughout India.

Remarks. Perhaps some of the Museum varieties of *P. miliaceum* and *P. frumentaceum* should correctly be referred to this species.

Panicum pilosum. *Sw.*

Linn. Syst. Tetrandria Digynia.

Vernacular. *Arzan,* Hind. *Bhadlee,* By.

Habitat. ? It comes to the Museum from Poona only.

Panicum ?————?

Linn. Syst. Tetrandria Digynia.

Vernacular. *Danglee,* Poona.

Habitat. ? It comes to the Museum from Poona only.

Panicum ?————?

Linn. Syst. Tetrandria Digynia.

Vernacular. *Ralee,*————?

Habitat. It comes to the Museum from the Punjab.

Paspalum scrobiculatum. *Rox.* *Punctured Paspalum.*

Linn. Syst. Tetrandria Digynia.

Vernacular. *Korudoosha, Kodruva,* Sans. *Koda,* Beng. *Varagu,* Tam. *Kodra,* Kangra. *Kodaka, Kodru, Kora,* Hind. *Menya,* Guz. *Kodro,* By. *Kiraruga, Allu, Arikelu,* Tel. *Wal-amu,* Cey.

Habitat. Cultivated throughout India in the rains.

Remarks. There is a variety called *Hareek,* said by Dr. Gibson to be narcotic, but which is returned as a cereal to the Museum from several collectorates.

Penicillaria spicata. *W.*

Linn. Syst. Tetrandria Monogynia.

Vernacular. *Bujera, Bujra, Sazgaran,* Hind. *Muttaree,* Mal. *Cumboo,* Tam. *Peddiganti* (plant), *Gantiloo* (grain), Tel.

Habitat. Cultivated in India as a rain crop; cultivated also in Egypt.

Remarks. This plant has many synonymes, viz. *Holcus spicatus,* Linn., *Panicum spicatum,* Rox.; *Pennisetum typhoideum,* Pers. It also includes Roxburgh's *Panicum involucratum.*

Sorghum cernuum. *W.*

Linn. Syst. Triandria Digynia.

Vernacular. *Koonkee,* East Bengal. *Soondia,* Broach.

Habitat. ? Sent from Broach. Known also elsewhere in India.

Remarks. According to Fraas, the μέλινος of Theophrastus, ἔλυμος ἡ μελίνη of Dioscorides, and *Panicum* of Pliny. Others refer all these to *Panicum miliaceum*.

Sorghum vulgare. *Pers.* *Indian Millet.*

Linn. Syst. Triandria Digynia.

Vernacular. *Zoorna, Yavanala, Rakta-khurnah,* Sans. *Joar Jaundri, Kurbi* (stalk), Hind. *Yoar,* Kangra. *Jowaree, Jondla,* Dec. *Jolah,* Can. *Chavela,* Mal. *Cholum,* Tam. *Jonna, Jonnalo, Ramudi-talambralu,* Tel. *Taam,* Arab. *Kaydee, Durra,* Egypt.

Habitat. ? The East Indies ? Cultivated widely over southern Asia and tropical Africa and America.

Remarks. This is synonymous with *Holcus Sorghum,* Linn., and includes *H. Durra,* Forsk., *S. rubrum,* W., and *S. nigrum,* Rox. ; and should probably include *Andropogon saccharatus,* Rox., and its varieties. Sprengel believes it to be alluded to in Exod. ix. 32 ; by Theophrastus in his chapter on Cereals, bk. iv. ch. 8 ; and by Herodotus, bk. i. ch. 193, where he describes the vegetable products of Babylonia. It is undoubtedly the "Indian Millet" of Pliny, with tufts called *phobæ,* and is described also in Serapion, and by Fuchsius amongst the fathers of botany.

Triticum æstivum. *Rox.* *Summer Wheat.*

Linn. Syst. Triandria Digynia.

Vernacular. *Godhooma, Soomuna,* Sans. *Gom,* Beng. *Gioon,* Hind. *Kank ? Gih ?* Sindh. *Gawn,* Guz. *Mar-ghoom, Ghawut-ghoom,* By. *Godumbay-arisee,* Tam. *Godoomaloo,* Tel. *Burr,* Arab. *Gandum,* Pers. *Kumh ?* Egypt. *Gendoom,* Malaya.

Habitat. ? Baschkir's country ? Cultivated in favourable localities in Hindoostan and the Deccan during the cold season.

Remarks. *Wheat* is referred to in Deut. viii. 8, but whether *Summer* or *Winter,* or *Common Wheat,* cannot well be said. Theophrastus refers to both *Triticum hybernum,* Kunth, and *Summer Wheat,* πυρὸς χειμοσπορούμενος καὶ τρίμηνος.

Zea Mays. *Linn.* *Common Indian Corn.*

Linn. Syst. Monœcia Triandria.

Vernacular. *Yavanala,* Sans. *Mokka, Bhuta,* Hind. *Chulee, Kokree,* Kangra. *Mukka-cholum,* Tam. *Mokka-jonna, Mokka-jonnalu,* Tel. *Muwa-iringu,* Cey. *Bajri,* Pers. *Jaggon,* Malaya.

Habitat. Tropical America. Cultivated now throughout the tropics.

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Remarks. *Fraas* indentifies this with grains described by the Greeks: but how could they have known a peculiarly American plant? Undoubtedly Tragus, *circa* 1550, is the first who notices it.

——— ? ——— ?

Linn. Syst.?

Vernacular. *Kuraj*, Poona.

Habitat. Received only from Poona.

——— ? ——— ?

Linn. Syst.?

Vernacular. *Buntee*, Ahmedabad.

Habitat. Received only from Ahmedabad.

Remarks. Among the cereals from Ahmedabad I also received *Bowchee* but it appears not to be a grass, but to belong to some different order I have not yet been able to determine.

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DIVISION I.

Class 3. A.

AGRICULTURAL PRODUCE.

β Pulse.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Arachis hypogæa. *Linn. American Earth Nut, Manilla Gram.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Boochanaka*, Sans. *Moongphulli, Booe-moong*, Hind. *Booi-sing, Velaitee-moong*, Dec. *Vayer, Nelay-codalay*, Tam. *Nela-sanagalu, Veru-sanaga*, Tel. *Cachang-goring*, Sumatra.

Habitat. South America, the Mediterranean countries.

Remarks. The *οὔιγγον* of Theophrastus, spelt also *οὔϊπον*, and *οὔϊτον* according to Sprengel; and *ἀράχιδνα* according to Fraas. See "Oils and Oil-seeds."

Cajanus indicus. *Spreng. Two-coloured Pigeon Pea.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Arhuka, Adaki*, Sans. *Urur*, Hind. *Orol*, Beng. *Toor*, Dec. *Towaray*, Tam. *Kandaloo, Carpoo-woolando*, Tel. *Rata-tora*, Cey. *Shakhool*, Pers.

Habitat. East Indies.

Remarks. First described by Van Rheede. It is the *Cytisus Cajan* of Willdenow, and the *Doll-bush* of Anglo-Indians, the stalks of which are used in the preparation of gunpowder in the Government works at Mazagon. See "Miscellaneous" Class.

Canavalia gladiata. *DeC.* *Sabre-podded Canavalia.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Shimbee ?* Sans. *Mukshun-shim,* Beng. *Bara-sim, Kudsumber,* Hind. *Segapoo,* Tam. *Tella-tumbetten-kaya, Chamma,* Tel.

Habitat. East Indies.

Remarks. First noticed by Van Rheede. There are varieties, red, white, large and small, all from *C. virosa,* W. and A. See "Narcotics."

Cicer arietinum. *Linn.* *Common Chick Pea, Common Gram.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Chennuka, Sanakha, Harimanthaca,* Sans. *Chala, Boot, Chuna-batoola,* Beng. *But, Hurbury, Chenna,* Hind. *Chana,* Sindh. *Chana,* Guz. *Kadala,* Mal. *Cadalei,* Tam. *Sanigheloo, Harimandhakam,* Tel. *Nakhud,* Pers. *Hims,* Arab. *Homos,* Egypt.

Habitat. The Mediterranean countries.

Remarks. The ἐρέβινθος of Hippocrates and Theophrastus, the κριός of Theophrastus, and Dioscorides, and ἕτερον εἶδος ἐρεβίνθου of Dioscorides. It is the *Cicer* of Pliny, who mentions a variety "*arietinum*" from its likeness to "a ram's head," and another, the "columbine" Chick-pea, or "Pea of Venus."

Cyamopsis psoralioides. *DeC.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Guvarphulli,* Guz. *Gouaree, Gaur, Mutkee,* Dec. *Koth-averay-kai, Sini-averai,* Tam. *Goruchikkudu,* Tel.

Habitat. ? Widely cultivated throughout the Deccan.

Remarks. The *Dolichos fabæformis* of Willdenow, and *D. psoraloides* of Lamarck.

Dolichos Catjang. *W.* *Small-fruited Dolichos.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Lasunda ?* Sans. *Burbutti,* Beng. *Lobeah ?* Hind. *Chora,* Guz. *Lobeh ?* Dec. *Tadagunny, Kurson-pyro,* Can. *Alasendi ?* Mal. *Caramunny-pyre,* Tam. *Duntoo-pesaloo, Bobra, Boberloo* (grain), Tel. *Lee-mæ,* Cey.

Habitat. East Indies.

Remarks. Fraas thinks this may be the φακὴ ἰνδική of Theophrastus. Van Rheede is the first to describe it clearly.

Dolichos sinensis. *Linn. Chinese Dolichos.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Loobia,* Hind. *Chaunro,* Sindh. *Chowlee,* Dec. *Paru,* Mal. *Kara-mani,* Tam. *Alsanda, Alachandalu, Boberloo? Karamanulu,* Tel. *Wanduru-mæ,* Cey. *Lobiya,* Pers. *Ollæah,* Egypt.

Habitat. East Indies.

Remarks. First noticed by Rumphius.

Dolichos uniflorus. *Lam. Two-flowered Dolichos.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Kolutha, Balukula,* Sans. *Kooltee,* Hind. *Moothera,* Mal. *Koolloo,* Tam. *Woolawooloo,* Tel.

Habitat. East Indies.

Remarks. The *D. biflorus* of Willdenow. First mentioned by Plukenet.

Ervum Lens. *Linn. Lentil.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Mussoora,* Sans. *Mussoor,* India. *Adz,* Egypt.

Habitat. France. Widely cultivated in the Mediterranean countries and India.

Remarks. Referred to Gen. xxv. 24, and the φακὸς of Hippocrates according to Sprengel, and of Theophrastus, Dioscorides, and Galen, according to Fraas. See *Dolichos Catjang.* Pliny describes it under the name of "Lens," his "*Ervum*" being referred to *Vicia Ervilia* (L.), the ὄροβος of Theophrastus and Dioscorides. The "Ervilia" of Pliny, or ὦχρος of Theophrastus, is now referred to *Lathyrus Cicera* (L.). The ἀφάκη of Theophrastus and Dioscorides is the *Vicia Cracca* (L.), not *Lathyrus Aphaca* (L.), which, according to Fraas, is the ὀροβάγχη of Theophrastus, although Sprengel refers ἀφάκη to *L. Aphaca.* It is the *Cicer Lens* of Willdenow. Roxburgh mentions an *Ervum hirsutum* (Will.) cultivated in Northern India for fodder, under the names of *Mussoor-chuna* and *Jhunjhuniankari.* Revalenta arabica is nothing more than Lentil bread, the name being a juggle of *Ervum Lens,* notwithstanding the illustrated advertisement of negroes digging at the roots of strange palms.

Lablab vulgaris. *Savi. Black-seeded Dolichos.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Simbi, Simbini, Nispava, Bullar, Saim-ke-puttee, Walpapree,* By. *Wall,* Sindh. *Mutcheh, Tota-pyre?* Tam. *Lobiya,* Pers. *Liblah,* Egypt.

Habitat. Egypt. Widely cultivated in India.

Remarks. The Dolichos Lablab of Linnæus, first mentioned by Avicenna and Serapion. There are numerous varieties, and the following are enumerated by Roxburgh :—

- *1st. Annapa*, Tel.
- *2nd. Annapa-chikurkai, Dolichos albus* (Lour.) and *D. bengalensis*, Linn.
- *3rd. Geea-shim*, Beng.
- *4th. Goordal-shim*, Beng.
- *5th. Dolichos purpureus*, Lour., *D. Lablab*, Botanical Magazine, plate 896.
- *6th. Bun-shim*, Beng. *Adavi-chikkurkai*, Tel. *Dolichos spicatus*, Kön.
- *7th.* A downy plant, with red flowers, and a dark-gray mottled seed.

Dolichos lignosus, W., I have not detected in the pulse sent from any of the collectorates of this Presidency ; but as it is probably cultivated, a list of the varieties given by Roxburgh may be of service here :—

- *1st. Panch-shim*, Beng. *Tella-chikurkai*, Tel. *Dolichos unguiculatus*, Lour. but not Rumph. Legumes straighter than in other varieties, seeds reddish.
- *2nd. Baga-nakhooa-shim*, Beng. Legumes curved : size of little finger.
- *3rd. Sada-jamai-kooli-shim*, Beng. *D. cultratus* (Will.).
- *4th. Pituli-jamai-pooli-shim*, Beng. Flowers reddish purple, not white as in previous vars.
- *5th. Doodha-pituli-shim*, Beng. Legumes curved, and about five inches long.
- *6th. Ganchi-shim*, Beng. *Nella-chikurkai*, Tel. Flowers red, legumes 6 to 8 inches. Seeds black, with a white eye.

Lathyrus sativus. *W. Chickling Vetch.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Khesaree, Teora*, Beng. *Kussoor*, Hind. *Matar*, Sindh. *Lang*, Guz. *Masang*, Pers. *Gilban*, Egypt.

Habitat. The Mediterranean countries. Only received from Guzerat by the Museum, but generally cultivated in Hindoostan.

Remarks. The *λάθυρος* of Theophrastus, and "*Cicercula*" of Pliny.

Phaseolus aconitifolius. *W. Aconite-leaved Kidney Bean.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Vasunta*, Sans. *Moot*, Hind. Dec. *Mohar*, Sindh. *Mat*, Guz. *Tulka-pyre*, Tam. *Kooncooma-pesaloo*, Tel. *Adas*, Pers.

Habitat. East Indies.

Phaseolus Max. *W. Hairy-podded Kidney Bean.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Mudga-parni,* Sans. *Krishna-moog, Kala-moog,* Beng. *Kali-mung,* Hind. *Karuppu-payaru,* Tam. *Nella-pessara,* Tel. *Boo-mœ,* Cey. Ainslie gives the following synonymes : viz. *Masha,* Sans. *Kalie-oorud,* Dec. *Wooddoo,* Mal. *Chicuda,* Can. *Carpoo-ulandoo,* Tam. *Minamolu, Nulla-woodoloo,* Tel. *Mœsh,* Arab. *Benoomash,* Pers.

Habitat. Cultivated widely in India.

Remarks. This is the *Black Gram* of Anglo-Indians, and probably only a variety of *P. Mungo,* or, as Roxburgh suggests, *P. Mungo* of it. It is not recognized in Graham's, or Gibson and Dalzell's Catalogues, *Black* and *Green Gram* being included in this Presidency under *P. Mungo,* which see.

Phaseolus Mungo. *Linn. Small-fruited Kidney Bean.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Moodga,* Sans. *Mung, Harya-mung,* Hind. *Hali-moog, Hari-moog, Kherooya, Bulat,* Beng. *Mung,* Sindh. *Moog* (Green Gram), *Oorud* (Black Gram), Dec. *Pucha-payaroo, Oolandoo,* Tam. *Pachcha-pesulu, Nella-pesalu, Pasalu,* Tel. *Munmœ,* Cey. Ainslie gives the following synonymes : viz. *Danie-masha,* Sans. *Oorud,* Hind. Dec. *Arad,* Guz. *Moong,* Dec. *Hessaru,* Can. *Ulandoo,* Tam. *Wooddooloo,* Tel.

Habitat. India.

Remarks. First mentioned by Avicenna. The *Green Gram* of Bengal. The *Black* and *Green Gram,* according to the variety, of Bombay. A comparison of the authentic synonymes of this plant with those of *P. Max,* that is of synonymes other than such as are given by Ainslie, will remove all doubt of the *Krishna-moog* of Northern India being any other than our *Oorud.* Ainslie's synonymes are confusing, especially when compared with those he gives for *P. radiatus* (*v. infra*). But I give them entire, with the sufficient precaution of giving them separately, owing to my unfamiliarity with *Mash.* It was pointed out to me at Sholapore (1856-57) by a Bengal Subadar, and it was certainly *P. radiatus* which was shown me. But neither the grain of *P. radiatus,* nor any grain named *Mash,* has been returned to the Museum from any of the Collectorates, and no one knows the name here.

Roxburgh also describes *Phaseolus aureus,* or *Sona-moog,* Beng., and *Phaseolus calcaratus,* or *Ranga-moog,* Beng., the first being largely cultivated in Bengal, and the second in Mysore.

Phaseolus radiatus. *Rox. Rayed Kidney Bean.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Masha, Vrishya,* Sans. *Mash-kulay, Ticorai-kulai* (black-seeded variety), Beng. *Dord, Thikiree* (black), *Moong,*

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Oorud, Hind. *Mah,* Sindh. *Ulandu*, Tam. *Minumulu*, *Karuminumulu*, *Uddalu*, Tel. *Ulundu-mæ*, Cey. The following synonymes are given by Ainslie, viz. *Harita*, Sans. *Mag*, Guz. *Hariemoong*, Dec. *Cheroo-poiaar*, Mal. *Hasaroo*, Can. *Patchay-pyre*, *Panny-pyre* (a var.), Tam. *Patsa-pesaloo*, Tel.

Habitat. China. Cultivated widely in Northern India.

Remarks. "Is the most esteemed of all the *Leguminæ*, and bears the highest price" (Roxburgh). See *P. Mungo*. This pulse is the origin of the weight *Masha*, as the seed of *Abrus precatorius* is of the weight, *Ratti*.

Phaseolus vulgaris. *W*. *Common Kidney Bean*, *Haricot nain*.

Linn. Syst. Diadelphia Decandria.

Vernacular. *Bakla*, *Loba*, Hind. *Dambala*, Ceylon.

Habitat.? Cultivated widely over the world.

Remarks. Erroneously called *French* Bean. Is the δόλιχος of Hippocrates and Theophrastus, and the "*Phaseolus*" of Pliny according to Fraas. According to Sprengel it is also the σμίλαξ of Dioscorides. *P. multiflorus* (W.,) is the *Scarlet Kidney Bean*, *Scarlet Runner*, or *Haricot à rames*. None other than the above species of *Phaseolus* have been returned to the Museum, but several more are cultivated in Hindoostan, and in finishing with the genus it may be useful to enumerate them.

Phaseolus alatus, *W*. *P. cultratus*, *Wall*. *Winged Kidney Bean*.
Vernacular. *Bun-burbultee*, *Hullounda*, Hind. *Katon-paera*, Mal. *Kar-alsanda*, Tel. A native of Bengal and tropical America?

Phaseolus lunatus, *W*. *Scymetar-podded Kidney Bean*, *Duffin Bean*.
Vernacular. *Ooru-dumbala*, Cey. A native of the East Indies.

Phaseolus maximus Sloan.
No vernacular. Widely cultivated, having probably been introduced from America. There are six varieties.

Phaseolus trorsus, Rox.
Vernacular. *Seeta maas* of the Newars. Cultivated in Nepaul.

Phaseolus trilobus. *W*. *Three-lobed Kidney Bean*. Is edible, but not cultivated.
Vernacular. *Moodga-purnee*, Sans. *Triangguli*, Sans. Hind. *Rakhal-kulay*, Hind. *Arkmutt*, *Mooganee*, By. *Pelli-pessara*, Tel. *Bin-mæ*, Cey. A native of the East Indies.

Pisum arvenese. *W*. *Field Pea*.

Linn. Syst. Diadelphia Decandria.

Vernacular. *Keiao*, Beng. *Bisilleh*, Egypt.

Habitat. The Mediterranean countries.

Remarks. See *Pisum sativum*.

Pisum sativum. *W.* *Common Pea.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Harenso,* Sans. *Burra-mutur,* Beng. *Buttani, Muttur,* Hind. *Watana,* Dec. *Puttanie,* Tam. *Goondoo-sani-gheloo,* Tel. *Rutagoradia,* Cey.

Habitat. The Mediterranean countries.

Remarks. The ἐρέβινθος of Homer and Hippocrates, and the ἐρέβινθος ὄροβιαιος of Theophrastus, are referred to this plant by Sprengel. These Fraas refers to *Cicer arietinum,* and considers that the Common Pea is the πίσον and πίσσος of Theophrastus, and probably the ἐρέβινθος ἥμερος of Dioscorides. Sprengel agrees with him regarding the reference of πίσσος; and refers the ἐρέβινθος of Theophrastus to *C. arietinum.*

Psophocarpus Tetragonolobus. *W.* *Square-podded Dolichos, Winged Pea, Chevaux-de-Frize Bean, Pois carré.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Chandaree, Charputtee,* By. *Dara-dambala,* Cey.

Habitat. Sicily. Widely cultivated in the East.

Remarks. This plant is the same as *Dolichos tetragonolobus,* W. stated to be a native of the Mauritius. I believe it to be the same as *Tetragonolobus edulis,* Lunk, which is the same plant as *Lotus tetragonolobus,* W. and a native of Sicily. The flowers are white, blue, and, if the same as the Sicilian plant, reddish.

Vicia Faba. *Linn.* *Garden Bean, Faba Græca, Faba, major, Faba minor.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Ful,* Egypt.

Habitat. Egypt.

Remarks. Mentioned in the Bible. The κύαμος μελανόχροος of Homer, κύαμος ἑλληνικὸς of Hippocrates, κύαμος of Theophrastus, and "*Faba*" of Pliny. The last writer would infer that this pulse is the Bean of Pythagoras usually referred to *Nelumbium speciosum.* The *Vicia* of Pliny is *Vicia sativa,* L. the βίκον of Galen, and *Faurum* of modern Egypt, by some thought the true *Faba Græca.* It is cultivated in Upper India. *Mucuna utilis,* Wall. *M. nivea,* W. *et* S. and *M. capitata,* Buch. are all cultivated in Southern India. Pliny notices the derivation of some of the most ancient surnames of the great Roman families from different pulse, as Cicero, Lentulus, Piso, Fabius.

DIVISION I.

Class 3 A.

AGRICULTURAL PRODUCE.

γ Fodder.

N. O. 13. PAPAVERACEÆ. *POPPYWORTS.*

Papaver somniferum. *Linn.* *Garden Poppy.*

Linn. Syst. Polyandria Polygynia.

The seed cake.

Vernacular. The plant,—*Chosa*, Sans. *Post*, Hind. *Pasto*, Beng. *Casa-Casa*, Tem. *Cassa-Cassa*, Tel. *Aboonóm*, Arab.

The seed—*Cuscus*, Vulg.

Habitat. Asia, Egypt. Cultivated in Egypt, Asia Minor, Persia, Hindoostan, and China.

Remarks. See "Drugs."

N. O. 14. CRUCIFERÆ. *CRUCIFERS.*

Sinapis *sps.* *Species of Mustard.*

Linn. Syst. Tetradynamia Siliquosa.

The seed cake.

Vernacular. *Rajika, Sarshapa, Tuverica*, Saus. *Surson, Rai, Kalisursoon, Tooria, Bunga-surson*, Hind. Dec. *Raee, Bun-raee, Bul-raee, Shwet-raee, Sada-raee, Jooni-raee, Sanchi-sursoon*, Beng. *Suray-bij*, Sindh. *Kadaghoo*, Tam. *Avaloo*, Tel. *Gan-aba, Rata-aba*, Cey. *Khurdal, Kubbr*, Arb. *Sirshuf*, Pers.

Habitat. The temperate zones. Widely cultivated.

Remarks. The νάπυ of the Greeks. In India are cultivated chiefly *S. ramosa, Raee*; *S. glauca, Toria*; *S. dichotoma, Kalie-surson*; and *S. juncea, Bunga-surson*, the *Khardel*, or *Kubbr* of Arabia and Egypt.

N. O. 55. LINACEÆ. *FLAXWORTS.*

Linum usitatissimum. *Linn.* *Common Flax.*

Linn. Syst. Pentandria Pentagynia.

The seed cake.

Vernacular. *Atasi, Matusi, Ooma,* Sans. *Ulsi, Tisi, Musina, Musnee,* Hind. *Jowus,* Dec. *Aliveree, Allo-seroo-sanul,* Tam. *Buzruc, Kettan,* Arb. *Kutan,* Pers.

Remarks. See "Drugs," and "Oils and Oil-seeds."

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Acacia arabica. *Linn.* *Gum Arabic Tree.*

Linn. Syst. Polygamia Monœcia.

The pod.

Vernacular. The tree,—*Barbura,* Sans. *Kalikeker,* Hind. *Babula, Gursoonder,* Hind. Beng. *Babla,* Beng. *Babool, Kaliekeeker,* Dec. *Kurroo-vaylum,* Mal. *Nella-toomie, Tumma-chettu,* Tel. *Akakya Umgheelan,* Arab. *Mughilan,* Pers. A variety,—*Ramkanta ;* and another *Eree-babool,* Dec.

Habitat. India, Arabia, Egypt, Senegal.

Remarks. *Acacia Farnesiana* is also called *Eree-babool.* See "Drugs."

Medicago sativa. *W.* *Lucern.* *Burgundy Hay.*

Linn. Syst. Diadelphia Decandria.

The herb.

Vernacular. *Valaitee-gawat,* By.

Habitat. Persia, Peru? Cultivated in India.

Remarks. The μηδική of the Greeks and *Medica* of the Romans, like the Citron from Media. It was introduced into Europe during the wars with Darius, as the British Expedition of 1856-57 introduced *Hurayalee* into Farz and Khuzistan. The plant has been immemorially known in Peru. *M. falcata,* W. *Yellow Medick* or *Swiss Lucern* is more hardy than *Lucern,* and might probably be advantageously attempted in India, where the soil is barren.

N. O. 120. COMPOSITÆ. *COMPOSITES.*

Carthamus tinctorius. *W.* *Officinal Carthamus.*

Linn. Syst. Syngenesia Æqualis.

The seed cake.

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Vernacular. *Cusumbha, Kamalottara,* Sans. *Koosumbha,* Sans. Beng. Hind. *Kajeerah,* Beng. *Koosum,* Hind. *Seendoorkum,* Tam. *Cossumba,* Cey. *Usfur,* Arab.

Habitat. Egypt. Widely cultivated in India.

Remarks. The κνῆκος and κνίκος of the Greeks.

N. O. 147. PEDALIACEÆ. *PEDALIADS.*

Sesamum indicum. *DeC.* *Indian Oily-grain.*

Linn. Syst. Didynamia Angiospermia.

The seed cake.

Vernacular. *Tila,* Sans. *Til,* Beng. Hind. *Krishna-til,* Hind. *Gingelie,* By. *Wull-ellu,* Can. *Schit-elu ?* Mal. *Yelloo,* Tam. *Novu,* Tel. *Tel-tala, Tun-pat-tala,* Cey. *Duhn, Djyldjylan,* Arab. *Roghen,* Pers. *Semsem,* Egypt. *Benjam,* Sumatra.

Habitat. India, from whence its migrations are traced to Mesopotamia, Egypt, and the West Indies on the one hand, and to China and Australasia on the other.

Remarks. DeCandole's plant includes the *S. orientale* of Sprengel, the *Oriental* and *Indian Oily-Grain,* being varieties, not separate species. Varieties are represented in Rumph. Amboy. 5, plate 76, fig. 1; Bot. Mag. Sims, plate 1688; Van Rheede, Hort. Mal. ix plate 54, *et forte* 55. *S. laciniatum,* W. of the neighbourhood of Hyderabad in the Deccan would also appear to be only a variety.

It is the σήσαμον of the Greeks, and Sesama of the Romans. Herodotus (Clio, cxciii.) writing of the productions of the fertile plain of Babylonia observes—"I know not how to mention, although I have seen it myself, the immense height to which Millet and Sesamum will grow; for I am well aware that they who have not visited this country will deem whatever I may say on the subject a violation of probability. They have no oil, but what they extract from the Sesamum."

N. O. 266. GRAMINEÆ. *GRASSES.*

Andropogon glaber. *Rox.*

Linn. Syst. Polygamia Monœcia.

Vernacular. *Gundha-goorana,* Beng. *Tambut,* Dec.

Habitat. India.

Andropogon scandens. *Rox.*

Linn. Syst. Polygamia Monœcia.

Vernacular. *Marwail,* Dec.

Habitat. India.

Remarks. Grows about hedges in the rains. "Cattle are not fond of it." (Roxburgh.)

Cynodon Dactylon. *Pers.* *Creeping Cynodon.*

Linn. Syst. Triandria Digynia.

Vernacular. *Durva,* Sans. *Doorba, Doobla,* Beng. *Doob, Ghaner,* Hind. *Hurayalee,* Dec. *Arugampillee,* Tam. *Gherka, Ghericha,* Tel.

Habitat. Europe. India.

Remarks. The ἄγρωστις of the Greeks according to Fraas. "Its flowers, in their perfect state, are among the loveliest objects in the vegetable world; and appear, through a lens, like minute rubies and emeralds in constant motion from the least breath of air. It is the sweetest and most nutritious pasture for cattle; and its usefulness added to its beauty, induced the *Hindus,* in their earliest ages, to believe that it was the mansion of a benevolent nymph. Even the *Véda* celebrates it; as in the following text of the *Át'hárvana:* 'May *Dúrvà,* which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth for a hundred years!'" It is sacred also to Ganesha. *Dùrva* and *Doorba* must not be confounded with *Darbha,* a synonyme of the celebrated *Cusha* grass. See "Miscellaneous" Class.

Sorghum vulgare. *Pers.* *Indian Millet.*

Linn. Syst. Triandria Digynia.

The stalks,—Kurby.

Vernacular. *Zoorna,* Sans. *Joar, Jaundri, Kurbi* (stalk), Hind. *Yoar,* Kangra. *Jowaree, Jondla,* Dec. *Jolah,* Can. *Chavela,* Mal. *Cholum,* Tam. *Jonna, Jonnalo, Ramudi-talambralu,* Tel. *Taam,* Arab. *Kaydee, Durra,* Egypt.

Habitat. The East Indies, widely cultivated.

Remarks. See "Cereals." "The grasses, forming the greatest portion of the pasture for horses, cattle, and sheep, in most parts of the world, at the same time that they yield grain, which forms three-fourths of the food of man, are necessarily the most important class of plants in an economical and political point of view." "The cultivation of pasture-grasses having only recently formed a part of English agriculture, it cannot be expected that much attention should have been paid to the subject of hay and pasture-grasses in India, though some districts as that of HURRIANA,* like the natural pastures and meadows of the British isles, are celebrated for their pastures and herds of cattle.

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* The grasses of Hurriana belong to the genera *Panicum, Pennisetum, Cenchrus, Chætaria, Vilfa, Dactyloctenium, Chloris, Eleusine, Achrachne, Poa, Eragrostis,* and *Andropogon,* the grasses of the Doab only finer perhaps. Royle, Hima. Bot. p. 421, note.

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AGRICULTURAL PRODUCE—FODDER.

The subject is one of the greatest importance, not only as affording pasture for horses and agricultural cattle, but also for improved breeds of sheep which India is likely to produce, and export their wool. The plains of India being subject to great heat with drought at one season, and heavy rains at another, cannot be expected to present any pasture-grounds resembling those of the best part of Europe; but the temperature of the cold weather months, especially in the northern provinces, being such as to be most favourable for the cultivation of the same cereal grasses as in Europe, it is not surprising that good grass is produced there, and that many English gentlemen prepare very excellent hay. Their rapid growth, great height, and subsequent dryness, render many of the Indian grasses unfit for pasture at the end of the year. This the inhabitants * * * remedy, by yearly burning down the old and dry grass, so as to allow the young blades which immediately sprout up to afford fodder for their cattle. But Europeans in India infinitely prefer, or indeed only give their horses, the creeping stems and leaves, scraped off the ground by the grass-cutter, of that grass which is known by the name of *doob*, or *doorba* (Cynodon Dactylon), and which flowers nearly all the year round, and is, fortunately, by far the most common in every part of India. * * * Cattle are also fed on chopped straw *(bhoosa)** as well as the stalk of the *joar (Sorghum vulgare)* cut into small pieces, and then called *kurbee;* of this all kinds are remarkably fond. They are also fond of the straw of many other of the cultivated *Gramineæ* as *Paspalum scrobiculatum,* and *Kora, Penicillaria spicata, Panicum italicum, frumentaceum, miliare,* and *Eleusine ægyptiaca.* Buffaloes are also fond of *kans,* or *Imperata (Saccharum) spontanea,* and its varieties which are stacked for the purpose. India is not, however, destitute of pasture grasses, but they belong to genera and tribes different from those of Europe as *Panicum, Eragrostis Saccharum, Rottboellia, &c.*†" "The pastures of the various parts of India might probably be much, and at the same time easily improved, by the introduction of some of the pasture grasses of Brazil, which are of a gigantic stature, and perfectly tender and delicate." (Royle.)

One of the most important subjects indeed to which the Agri-Horticultural Society of Western India could give its attention, Western India being very unfortunate in respect of all kinds of fodder, The compiler has known the whole cattle of a considerable city, having a large military cantonment in the neighbourhood, pastured nearly all the year round on a bladeless area of splintered basalt, their nutriment being derived from the use to which the ground was put by the city. Regularly each morning when the inhabitants had turned out on the plain, the cattle were turned out after them. The milk was absolutely undrinkable, and the meat only not uneatable because without it was starvation. It is such eating however that makes all the difference between an Englishman in India and an Englishman in England, and the cachectic meat of this country is owing to the inattention to pasture and hay grasses. In Bombay even, horse-dung is used as fodder for buffaloes and cows. "All flesh is grass," and no plants therefore are more worthy of experiment and improved culture in India, Linnæus, as quoted by Royle, has tersely said "Graminea, folia pecoribus et jumentis læta pascua, semina minora avibus, majora hominibus esculenta sunt."

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* *Bhoosa* in this presidency is either simple bran, or a mixture of various substances, as bran of wheat, rice, chopped straw, and so forth.

† Royle also mentions *Andropogon martini* (after General Martin), and *Ischæmum pilosum,* the latter very common in the black cotton soil. Dalzell however terms it "the greatest pest to agriculturalists."

Camel fodder-plants also, in some provinces of the Empire, call for intelligent observation and culture. The compiler has not studied the subject, but submits the following list of Camel Fodder-plants from the Government records of Sindh, on the authority of the late Dr. Stocks, whose accuracy is always as conspicuous as it is rare in Indian botanical works of a late date.

Camel Fodder-plants of Sindh.

SINDEE NAME.	BOTANICAL NAME.
Aout-lanee, or Ushuk-lanee ..	Sueda sp.
Baver	Acacia farnesiana, W.
Bubber	Acacia arabica, W.
Chawr	Agiceras majus, Gatu.
Chotee-lanee, or Fysur-lanee ..	Trianthema micrantha, Stocks.
Drunoo	Crotalaria Burhia, Ham.
Fysur-lanee, *vide* Chotee-lanee..	
Gahro-lanee	Salsola sp.
Goon	Cressa indica.
Gudha-lanee, or Put-lanee ..	Xygophyllum simplex, Linn.
Hajeroo	Mimosa tubucaulis, Lam.
Jhil	Indigofera pauciflora.
Juree	Atriplex sp.
Kandero..	Alhagi maurorum, Town.
Kharee djar, or Kuber	Salvadora persica, Linn.
Kharee lanee	Salsola sp.
Kip	Leptadenia jacquemontiana, DeC.
Kontee-lanee	Salsola sp.
Kotuk	Glinus lotoides, Linn.
Kuber, *vide* Kharee djar.	

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Sindee Name.	Botanical Name.
Kundo	Prosopis spicigera.
Mitho-lanee, or Samundur-lanee	Sueda sp.
Moodheree	Corchorus humilis, Munro.
Mulleero.	Amaranthus tenuifolius, Rox.
Put-lanee, *vide* Gudha-lanee.	
Saduee djar	Salvadora indica, Royle.
Samundur-lanee, *vide* Mitho-lanee.	
Tik	Eclipta prostrata, Rox.
Timmer	Avicenna tomentosa, Linn.
Ushuk lanee, *vide* Aout-lanee.	
Waho	Trianthema intermedia, Stocks.
Wukkun	Zapania nodiflora, Linn.

The Camel rejects the following :—

Puneer	Puneeria coagulans, Stocks.
Sewur, or Sihar	Khazya stricta, DeC.
Thuhur	Euphorbia nereifolia, Linn.
Uk	Calotropis hamiltonii, Wight.

The Camel eats the *Jowr*, *Zowr*, or *Nerium odorum*, W. *Sweet-scented Oleander*, but the plant "is nearly always fatal to him." *Prangos pabularia*, N. O. 110 *(see* "Drugs") is described by Moorcroft as affording excellent fodder for cattle in the neighbourhood of Draz. Attention has already been turned to it in India. The stalks of *Imphee* form excellent fodder, and probably this is the only service the plant will be in India.

DIVISION I.

Class 3. B.

FRUITS AND VEGETABLES.

N. O. 2. DILLENIACEÆ. *DILLENIADS.*

Dillenia speciosa. *Thun.* *Large-flowered Dillenia.*

Linn. Syst. Polyandria Polygynia.

The calyx,—eaten as a fruit.

Vernacular. *Ruvya*, Sans. Beng. *Chalita*, Beng. *Mota-kurmul*, By. *Syalita*, Mal. *Uvva*, Tam. Tel. *Pedda-kalinga*, Tel. *Honda-para*, Cey.

Habitat. East Indies.

Remarks. First described by Van Rheede. The tumid calyces of *D. scabrella* are also eaten in Bengal and Chittagong.

N. O. 4. ANNONACEÆ. *ANONADS.*

Annona muricata. *W.* *Sour-sop.*

Linn. Syst. Polyandria Polygynia.

The fruit,—eaten as a fruit.

Vernacular. ?

Habitat. West Indies. Completely naturalized on the Island of Bombay.

Remarks. First noticed by De Valdes, Piso, and Marcgravius.

Annona reticulata. *W.* *Netted Custard Apple.*

Linn Syst. Polyandria Polygynia.

The fruit,—eaten as a fruit.

Vernacular. *Rama-Sita ?* Sans. *Luvunee*, *Nona*, Hind. Beng. *Ram-phul*, Dec. *Rama-Sitapullam ?* Tam. *Rama-Sitapundoo ?* *Rama-phalam*, Tel. *Anona*, Goa, Cey. *Manua*, *Nona*, Malaya.

Habitat. South America? Extensively cultivated in India.

Remarks. I find no earlier reference to it than that of Van Rheede.

Annona squamosa. *Linn.* *Sweet-sop.*

Linn. Syst. Polyandria Polygynia.

The fruit,—eaten as a fruit.

Vernacular. *Gunda-gutra*, Sans. *Ata*, Beng. Hind. *Loona, Meba*, Beng. *Seetaphul*, Dec. *Anta-cheecha*, Mal. *Sitapullam*, Tam. *Sitapundoo, Sitaphulam*, Tel. *Atta*, Cey. *Shurifa*, Arab. *Manua-papuwa, Srikaya*, Malaya. *Seeree-cayoo*, Sumatra.

Habitat. South America. Extensively cultivated throughout the East.

Remarks. *Van Rheede*, so far as I can say, is the first to describe this plant. The *Ate* of the Philippines appears to be another species. *A. Cherimolia*, Mill, the *Cherimoyer* of South America, has been tried, but without success both at Bombay and Poona. It is considered one of the finest fruits in the world. *Annona senegalensis* is worth introducing. Between N. O.'s 4 and 10 we have—

N. O. 7. LARDIZABALACEÆ, *Stauntonia Nexaphylla*, the fruit of which is eaten in Japan, and that of a species of *Holböllia* in India.

N. O. 8. BERBERIDACEÆ, species of which yield Barberries, which probably could not be acclimatized in Bombay.

N. O. 10. NYMPHÆACEÆ. *WATER-LILIES.*

Nymphæa Lotus. *Linn.*

Linn. Syst. Polyandria Monogynia.

The root, stalk, leaf, and flower, eaten as vegetables ; and the seed as a nut.

Vernacular. The red variety : *Huluka, Ructa-sinduka*, Sans. *Ructa-kumbala*, Beng. *Rukta-chunduna*, Hind. *Kumul*, By. *Yerra-kulwa*, Tel. *Ruta-æt-olu*, Cey. The white variety : *Koomooda*, Sans. *Shalook, Kyrob*, Beng. *Bhamber, Bhambul, Sarang, Nilofar, Kuwulgotta*, Hind. *Koonee, Poonee, Napa* (seeds), *Lorhee* (root), Sindh. *Koee, Kumul*, By. *Tella-kulwa*, Tel. *Suda-æt-olu*, Cey. *Nilofer, Naufar* (quasi, *Nymphæa Nili*), *Beshnin*, Egypt. *Nenuphar*, Thibet.

Habitat. Egypt, about the marshes of Rosetta and Damietta : East Indies.

Remarks. This species includes *N. rubra*, W. et A., and *N. pubescens*, W. et A. Does it include *N. cœrulea*, Savigny? It is said to be the λωτὸς described by Theophrastus, Hist. Plant. iv. 10.,

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and the *ὁλωτὸς ἐν αἰγύπτω* of Dioscorides, iv. 114. It is mentioned by Herodotus, bk. ii. 92, where, describing the customs of the marshmen of the Nile, he writes:—"They gather the blossoms of a certain water-lily, which grows in great abundance all over the flat country at the time when the Nile rises and floods the regions along its banks—the Egyptians call it the lotus—they gather, I say, the blossoms of this plant and dry them in the sun, after which they extract from the centre of each blossom a substance like the head of a poppy, which they crush and make into bread. The root of the lotus is likewise eatable, and has a pleasant, sweet taste : it is round, and about the size of an apple. There is also another species of lily in Egypt which grows like the lotus in the river, and resembles the rose (*ἔστι δὲ καὶ ἄλλα κρίνεα ῥόδοισι ἐμφερέα*). The fruit springs up side by side with the blossom, on a separate stalk, and has almost exactly the look of the comb made by wasps. It contains a number of seeds, about the size of an olive-stone, which are good to eat : and these are eaten both green and dried." Sir J. G. Wilkinson, in a note on the above chapter, states that the Arabic name of *N. Lotus* is derived from the *pi-shneen* of the ancient hieroglyphics. The God Nofr-Atmoo bore the flower on his head, and Harpocrates the Egyptian Aurora, or Dayspring, is often represented seated on it. Garlands of Lotus were put round the necks of the guests at an Egyptian party, and it frequently occurs in the sculptures of Egypt, while *Nelumbium speciosum*, says Sir J. G. Wilkinson, never is seen. All other authorities consulted in the preparation of this Catalogue, state that it is the latter flower which is really represented, the *κύαμος αἰγυπτιὸς* of the Greeks, called also *κολοκασία* and *Faba Ægyptiaca.* The descriptions of Herodotus and other ancient writers appear to the compiler to rather bear out Sir J. G. Wilkinson's opinion. Most probably, however, under lotus, cyamus, colocasia, and Egyptian bean, the ancients included various plants, eatable roots, and beans or nuts, which, of course, in conjunction with their loose and confused descriptions, would render absolute identification impossible. A catalogue, however, should follow authority, and accordingly *Nelumbium speciosum*, is here adopted as the mythic Lotus. Water-lilies were considered odious to Venus, as they rivalled her beauty; and this it may be suspected, and not their chaste whiteness and habitation amongst the cool waters, as supposed by Wight, is the reason of the general belief in their imaginary qualities. *N. Lotus* is the *Lotus Ægyptia* of Pliny, bk. xiii. ch. 17; and of Prosper Alpinus, de plant. Ægypt. 2, page 49; the *N. seu Neuphar Ægyptum* of Vesling; *Castalia mystica* of Salisbury; and *N. Lotus* of Linn. Forsk. Willd. Reich and Delile. The red variety is the *N. rubra* of Rox. and *Castalia magnifica* of Salisbury. The variety with hairy leaves is *N. pubescens*, Willd; *Castalia sacra*, Salis.; *N. Lotus*, Burmann; *N. indica minor*, Rumphius; and *Ambel* of Van Rheede. The *νυμφαία* of Dioscorides, *σίδη* of Theophrastus, and Nymphæ of Pliny is the *N. alba*, Linn.; and the *νυμφαία* of Theophrastus and *νυμφαία ἄλλη* of Dioscorides, *N. lutea*, Linn.; and of these identifications there can be little doubt.

Nymphæa stellata. *W.* *Star-flowered-lily.*

Linn. Syst. Polyandria Monogynia.

The parts eaten, as in *N. Lotus.*

Vernacular. *Cahlara, Nelumbo-junma, Indeevura*, Sans. *Soondhi, Neel-podma, Chota-shalook* (a var.), Beng. *Neety-kulwa*, Tel. *Nil-tel-olu, Suda-tel-olu* (white), *Ruta-tel-olu* (red), *Ma-nel* purple), Cey.

Habitat. Malabar, Coromandel, Tranguebar, Bengal.

Remarks. This species includes *N. cyanea,* Rox. and *N. versicolor,* Rox. The latter is very like *N. Lotus. N. stellata* is the *Citambel* of Van Rheede.

N. O. 11. NELUMBIACEÆ. *WATER-BEANS.*

Nelumbium speciosum. *Will.* *Egyptian Lotus.*

Linn. Syst. Polyandria Polygynia.

The root, stalk, and leaf, eaten as vegetables; and the seed as a nut.

Vernacular. *Kamala, Pudma,* Sans. *Kummal, Pudum, Ambuj, Kungwel, Lal-Kummul,* Hind. *Pudmapodoo, Komol, Ponghuj,* Beng. *Neelofir,* Sindh. *Kungwel, Kungevelka,* Dec. *Tawmaray,* Tam. *Yerra-tamaray, Tellani-pudmam,* Tel. *Tamara, Bem-tamara,* Mal. *Nelun,* Cey. *Bakla-koobtee, Neelufir ?* Pers.

Habitat. India, Persia, Ceylon, Siam, Cochin-China, the Philippines, and Moluccas (except Amboyna), China, Japan.

Remarks. See "Drugs." The root is probably one *Colocasia* of the ancients, and the seed one *Faba Ægyptiaca.* Pliny describes the Colocasia (bk. xxi, ch. 15); and it is evident his account confuses two plants, and perhaps three, viz. an *Arum,* and *Nelumbium speciosum,* and probably, also *Nymphæa Lotus.* In his chapter on beans (bk. xviii. ch. 12) the "faba in Ægypto" can be referred to more than one source, although where he adds "nascens capite papaveris, colore roseo," he probably means by these words *N. speciosum.* What we mean by the Egyptian bean goes also by the name of Phythagorean, Coptic, and Pontic bean: and is said to be the *Hub-ul-kilkil* of the Arabs, although that name is given in Bombay to Cherry-stones, and elsewhere also to Pomegranate pips. *N. speciosum* is undoubtedly the κρίνεα ῥόδοις ἐμφερέα of Herodotus; the κύαμος αἰγύπτιος of Theophrastus and Dioscorides; the λωτὸς ῥοδιδοντὸς of Athenæus; the "Colocasia quam Cyamum aliqui vocant" of Pliny; *Nymphæa indica major,* and *Taratti,* Rumphius; *Nelumbo Zeylonensium,* Tournefort; *Cyamus mysticus,* Salisbury; *Tamara,* and *Bem-tamara,* Van Rheede; *Nymphæa Nelumbo,* Burmann; *Nelumbo,* Hermann; and *Nelumbo nucifera,* Gærtner.

In Bombay it blooms in the beginning of the rains, the flowers being beautiful beyond all description, every lively hue of "celestial rosy red," and milk white.

CSL

N. O. 15. CRUCIFERÆ. *CRUCIFERS.*

Brassica oleracea. *Linn. Common Cabbage.*

α. **capitata**. *Linn. White Cabbage.*
β. **rubra**. *Linn. Red Cabbage.*
γ. **sabauda**. *Linn. Savoy.*
γ. **sabauda gemmifera**. *Brussel's sprouts.*
δ. **sabellica**. *Linn. Borecole.*
ε. **Botrytis**. *Linn. Cauliflower.*
ε. **Botrytis cymosa**. *Brocoli.*
ξ. **caulo-rapa**. *Knol-khol*, or *Khol-rabi.*

Linn. Syst. Tetradynamia Siliquosa.

The entire plant in almost every variety, except β, eaten as a vegetable: β eaten in pickle.

Vernacular. The Common Cabbage: *Kopee*, Beng. Hind. *Krumb*, *Kirnub*, Arab. *Kullam*, Pers.

Habitat. England.

Remarks. The Common Cabbage (the ῥάφανος of Theophrastus, κράμβη ἥμερος of Dioscorides, and *Brassica* and *Crambe* of Pliny), and Knol-khol are very extensively cultivated in the Western Presidency; other varieties only about large military stations, or by enthusiasts.

Brassica campestris. *Linn.*

α. **rutabaga**. *DeC. Swedish Turnip.*

Linn. Syst. Tetradynamia Siliquosa.

The root and top,—eaten as vegetables.

Vernacular. ?

Habitat. England and Sweden.

Remarks. The βουνιὰς of Dioscorides, and *Bunias* of Pliny. Rarely seen. The *Colza* of the Dutch is a variety of this plant.

Brassica Rapa. *Linn. Turnip.*

Linn. Syst. Tetradynamia Siliquosa.

The root and tops,—eaten as vegetables.

Vernacular. *Shalgram*, Beng. Pers. *Gokhru*, Sindh. *Luft*, Arab.

Habitat. England.

Remarks. The γογγύλη ἥμερος of Dioscorides, and ῥάπυς of Theophrastus. *Rape* or *Coleseed* is the product of *Brassica Napus.*

Lepidium sativum. *Linn. Common Cress.*

Linn. Syst. Tetradynamia Siliculosa.

The young leaf,—eaten as small salad.

Vernacular. *Aleverie,* Beng. *Haleem,* Beng. and Dec. *Ahreo,* Sindh. *Adala vitala,* Tel. *Half,* Arab.

Habitat. Persia: widely cultivated.

Remarks. The κάρδαμον of Hippocrates and perhaps of Dioscorides, and the *Nasturtium* and *Dittander* of Pliny. *Alleeveray* is the Tamil for Linseed. See also "Drugs," and "Condiments and Spices."

Raphanus caudatus. *Linn. Long-podded Radish.*

Linn. Syst. Tetradynamia Siliquosa.

The root,—eaten as a salad.

Vernacular. ?

Habitat. Java.

Raphanus sativus. *Linn. Common Radish.*

a. **radicula**. *DeC. Long Radish.*
β. **oblonga**. *DeC. Turnip Radish.*

Linn. Syst. Tetradynamia Siliquosa.

Vernacular. *Mooluka,* Sans. *Moola,* Hind. Beng. *Muli,* Hind. Dec. *Muri,* Sindh. *Mura,* Guz. *Moolinghie,* Tam. *Mullangi,* Tel. *Rabu,* Cey. *Fioyl, Bokel,* Arab. *Turb,* Pers. *Fidjel,* Egypt. *Lobak,* Malaya.

Habitat. China. Cultivated over the world.

Remarks. The ῥαφανὶς and ῥαφανὶς ἀγρία of Theophrastus and Dioscorides, and *Raphanus* of Pliny.

Sinapis *sps. Linn. Species of Mustard.*

Linn. Syst. Tetradynamia Siliquosa.

The young leaf,—eaten as small salad.

Vernacular. *Rajika, Sarshapa, Tuverica,* Sans. *Surson, Rai, Kali-sursoon, Tooria, Bunga-surson,* Hind. and Dec. *Raee Bun-raee, Bul-raee, Shwet-raee, Sada-raee, Jooni-raee, Sanchi-sursoon,* Beng. *Suray-bij,* Sindh. *Kadaghoo,* Tam. *Avaloo,* Tel. *Gan-aba, Rata-aba,* Cey. *Kurdal, Kubbr,* Arab. *Sirshuf,* Pers.

Habitat. The temperate zones: widely cultivated.

Remarks. The νάπυ of the Greeks. In India are cultivated chiefly *S. ramosa, Raee; S. glauca, Toria; S. dichotoma, Kalie-surson;* and *S. juncea, Bunga-surson,* the *Khardel* or *Kubbr* of Arabia and Egypt. Besides the Crucifers above catalogued, the following might be introduced into Bombay, and some have already been on a small scale:—

Nasturtium officinale, R. Br. *Water Cress. Loot-putiah*, Dec.
Crambe maritima, Linn. *Sea-kail.*
Crambe tartarica, *Tartar Bread.*
Cochlearia officinalis, Linn. *Common Scurvy grass.*
Cochlearia Armoracia, Linn. *Horse-radish.*
Brassica Eruca, Linn. *Garden*, or *Stripe-flowered Rocket.*
Barbarea precox, R. Br. *American Cress*, or *Belleisle Cress.*
Barbarea vulgaris, R. Br. *Common Winter Cress.*

See also "Condiments and Spices," and "Oils and Oil-Seeds."

N. O. 16. CAPPARIDACEÆ. *CAPPARIDS.*

Capparis aphylla. *Rox.*

Linn. Syst. Polyandria Monogynia.

The berry,—eaten in pickle.

Vernacular. *Keril*, Hind. *Kirrur*, *Kureel*, *Doro* (unripe fruit), *Pukko* (ripe), *Pusse* (flower), Sindh.

Habitat. India.

Remarks. With the buds of *Capparis decasnæi*, the *Paneero* of Sindh would make a good succedaneum for the ordinary Capers of commerce, which are the buds of *C. rupestris*, Greece; *C. fontanesii*, Barbary; and *C. ægyptiaca*, Egypt. This last has been thought the *Esobh* of Scripture.

N. O. 17. Resedaceæ, *Reseda Phyteuma*, is eaten as a vegetable in the Greek Archipelago.

N. O. 18. FLACOURTIACEÆ. *BIXADS.*

Flacourtia montana. *J. Graham.*

Linn. Syst. Diœcia Polyandria.

The fruit,—eaten as a fruit.

Vernacular. ?

Habitat. Western Indies.

Flacourtia sapida. *W. Esculent Flacourtia.*

Linn. Syst. Diœcia Polyandria.

The fruit,—eaten as a fruit.

Vernacular. *Swadoo-kuntuka*, Sans. *Panawla*, *Bowchee*, By. *Pudda-kanrew*, *Nakka-neredu*, *Pedda-kana-regu*, Tel.

Habitat. Hindoostan.

CSL

Remarks. *Bowchee* is also the Ahmedabad name of a cereal not yet identified in the Museum Catalogue. *Flacourtia inermis,* Rox. the *Tomi-tomi* of the Moluccas might be introduced. The fruit of a species of *Oncoba* is eaten in Nubia, and the berries of a *Roumea* in Ceylon : various other Bixads also have indifferent fruits.

N. O. 28. Cary-ophyllaceæ, *Silene inflata, Inflated Catchfly,* or *Bladder Campion,* the young shoots of which combine the flavour of Asparagus and Peas.

N. O. 30. MALVACEÆ. *MALLOW-WORTS.*

Abelmoschus esculentus. *Linn. Eatable Hibiscus, Ochro.*

Linn. Syst. Monadelphia Polyandria.

The fruit,—eaten as a vegetable.

Vernacular. *Gendamoola?* Sans. *Dhenroos,* Beng. *Ram-turai,* Hind. *Bendie,* Dec. *Vendah,* Mal. Tam. *Binda,* Tel. *Bamia,* Egypt.

Habitat.? Cultivated throughout the East.

Remarks. First described by Alpinus.

Hibiscus Sabdariffa. *Linn. Indian Hibiscus, Rozelle.*

Linn. Syst. Monadelphia Polyandria.

The calyx,—eaten in tart and conserve.

Vernacular. *Mesta,* Beng. *Polechee,* Mal.

Habitat. East Indies.

Remarks. First described by Clusius.

N. O. 31. Sterculiaceæ, *Durio zibethinus,* Rox., the *Durian* of the Eastern Archipelago.

N. O. 32. Byttneriaceæ, the fruit of *Guazuma ulmifolia,* is eaten in Brazil.

N. O. 33. TILIACEÆ. *LINDENBLOOMS.*

Grewia asiatica. *W. Asiatic Grewia.*

Linn. Syst. Polyandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Phulsha,* Hind. Beng. Dec. *Pharaho,* Sindh.

Habitat. East Indies. Much cultivated in Guzerat.

Remarks. Chiefly used in the preparation of *Phalsi* sherbet. The *Gangree* of Sindh is a fruit obtained from *G. salicifolia,* Stocks, *G. rigida,* Stocks, and *G. affinis,* Stocks; and *Gangro* from an undetermined *Grewia.* See "Substances used in Infusion and Decoction."

N. O. 37. Olacaceæ, the fruit of *Ximenia elliptica,* is eaten in Fiji.

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Ægle Marmelos. *C. de S.* *Thorny Bengal Quince.*

Linn. Syst. Polyandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Vilva, Shreephula*, Sans. *Bael, Shreephula*, Hind. *Corvalum*, Mal. *Vilva-marum*, Tam. *Maredoo, Bilvamu, Maluramu*, Tel. *Beli*, Cel.

Habitat. East Indies.

Remarks. First described by Bontius. The ternate leaf of this tree is a symbol of the Hindoo Triad.

Bergera königii. *W. et A.*

Linn. Syst. Decandria Monogynia.

The leaf,—used as a garnish, in curries chiefly.

Vernacular. *Kristna-nimba*, Sans. *Karia-phullee*, Beng. *Bursunga*, Hind. *Koodianeemb*, By. *Kari-bepon*, Mal. *Karipilli, Karawaypillay*, Tam. *Karivepa*, Tel. *Watu-karapincha*, Cey. *Karaypaak*, Vulg.

Habitat. Cultivated in India.

Remarks. First described by Rumphius.

Citrus Aurantium. *Risso.* *Sweet Orange.*

Linn. Syst. Polyadelphia Polyandria.

The fruit,—eaten as a fruit.

Vernacular. *Narunga*, Sans. *Naringee*, Hind. *Kumla neeboo*, Beng. *Kitchlee*, Tam. *Kichili, Kittali kaya*, Tel. *Dodan*, Cey. *Narunj*, Arab. *Narindj-helu*, Egypt. *Jarok-manis*, Malaya.

Habitat. China? Cultivated in India, South Europe, Azores, and West Indies.

Remarks. See "Drugs."

Citrus Bergamia. *Risso.* *Bergamot Citrus.*

Linn. Syst. Polyadelphia Polyandria.

The fruit,—eaten in pickle: the juice,—used as a general flavouring agent.

Vernacular. *Nimbooka*, Sans. *Nemboo*, Hind. *Neboo*, Beng. *Lemboo*? Dec. *Eroomitchee-narracum*, Mal. *Elemitchum*, Tam. *Nemma pandoo, Gajanimma*, Tel. *Dehi*, Cey.

Habitat. South Europe; India.

Remarks. The *C. acida* of *Rox.*

Citrus Decumana. *W. Shaddock.*

Linn. Syst. Polyadelphia Polyandria.

The fruit,—eaten as a fruit.

Vernacular. *Paravata,* Sans. *Batavineboo,* Beng. Hind. *Chakotra,* Hind. *Bambelee-narunga,* Mal. *Bambalinas,* Tam. *Edapundoo,* Tel. *Maha-naram, Jamboola,* Cey. *Poomplemoos,* Malaya.

Habitat. India, China, Japan.

Remarks. Derives its English name from Captain Shaddock, R.N., who introduced it into the West Indies.

Citrus medica. *Risso. Citron.*

Linn. Syst. Polyadelphia Polyandria.

The rind,—eaten in conserve.

Vernacular. *Begapoora,* Sans. *Leemoo,* Hind. *Beg-poora,* Beng. *Lungamoo, Bijapuramu, Madiphulla chettu, Dabba chettu,* Tel. *Sidaran,* Cey. *Utruj, Ooturuj,* Arab. *Toorunj,* Pers. *Limun malehh,* Egypt. *Jarok,* Malaya.

Habitat. Asia. In ancient times it derived its name from Media, and is now found wild along the base of the Himalayas. Pliny says that in his day it would grow nowhere but in Media.

Remarks. The *μῆλον μηδικὸν* of Theophrastus, and *Malum citreum* of Pliny. See also "Drugs."

Feronia elephantum. *C. de S. Indian Elephant Apple.*

Linn. Syst. Decandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Kupittha, Bhu-Kupittham,* Sans. *Kuth-bel, Booienkavite, Kawtha, Koeet,* Hind. *Kuth-bel,* Beng. *Kaweet,* Dec. *Velanga, Pitavoola, Vullam, Nilavoola, Cootievella,* Tam. *Nelavellaga, Yelanga,* Tel. *Dewul,* Cey.

Habitat. India.

Remarks. See also "Drugs."

Triphasia Aurantiola. *Lour. Three-leaved Triphasia.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten in conserve.

Vernacular. *China narangi,* Hind. Beng.

Habitat. China. Completely naturalized in Bombay.

Remarks. *Cookia punctata,* the *Wampee* of China, and *Citrus Limonum,* Risso, the *Lemon,* have both been introduced into Bombay, but without success. *Glycosmis citrifolia,* bears delicious berries.

N. O. 42. GUTTIFERÆ. *GUTTIFERS.*

Garcinia Mangostana. *W.* *Common Mangosteen.*

Linn. Syst. Dodecandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Mungeestun,* By. *Manggusta,* Malaya. *Manggis,* Java, Bali, and Sunda. *Manggos,* Lampung. *Manggisi,* Bugis.

Habitat. Malaya.

Remarks. First described by Garcias, but is supposed by Sprengel to be the *Nux Henden* of Avicenna, Serapion, &c. Has been successfully introduced by the Honorable Mr. Frere and Mr. Rustomjee Jamsetjee Jejeebhoy into Bombay.

Garcinia purpurea. *Rox.*

Linn. Syst. Dodecandria Monogynia.

The fruit,—eaten as a fruit; and the rind,—used as a garnish, in curries chiefly.

Vernacular. *Kokum,* By. *Brindao,* Goa.

Habitat. Ravines of Concan.

Remarks. First described by Van Rheede. *G. cornea, G. kydiana,* and *G. pedunculata* have also eatable fruits. *Mammea americana, the Mammee-apple* or *Wild Apricot* of South America; *Clusia flava,* the *Yellow-flowered Balsam Tree,* or *Mountain* or *Wild Mango;* and *Grias cauliflora,* the *Stem-flowering Anchovy-Pear* of Jamaica; and *Xanthochymus pictorius,* H. K., of the East Indies, should all be tried in Bombay. The large berries of *Platonia insignis* are eaten in Peru, as also are its seeds which taste like almonds.

N. O. 45. Malpighiaceæ, yields *Malphighia glabra,* and *M. punicifolia, Smooth-leaved* and *Pomegranate-leaved Barbadoes Cherries;* and *Nitraria tridentata* of Tunis, the true Lotus tree, of the Lotophagi; and *N. schoberi,* the berry of which is the chief luxury of the tribes of the Caspian desert. See also "Condiments and Spices" and "Oils and Oilseeds," and "Drugs."

N. O. 48. SAPINDACEÆ. *SOAPWORTS.*

Nephelium Litchi. *Don.*

Linn. Syst. Octandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Litchi,* China, Beng. Hind.

GSL

Habitat. China, Western India *teste* Dalzell. Common in the gardens of Bombay.

Remarks. *N. Longanum* is the *Longan* of China ; and *N. lappaceum*, the *Rambutan* of the same country. The *Longan* does not produce an eatable fruit in this Presidency, a strong fact for Darwin. *N. pinnatum*, Chamb. is the *Dawa* of Fiji. *Cupania sapida*, the *Akee* of Africa, introduced into the West Indies by Bligh, has been tried in Bombay and failed. *Pierardia sativa*, the *Rambeh*, *P. dulcis* the *choopa*, and *Hedycarpus malaynus*, the *Tampiu* of Malaya are fruit trees of this order. The fruit of *Schmidelia edulis* is eaten in Brazil, that of *Sapindus senegalensis* in Senegal, of *S. esculentus* in Artaô, of *Melicocca bijuga* in the West Indies, and of *Pappea capensis* at the Cape. The succulent *aril* of *Schleichera trijuga*, the *Koosimb* of Bombay, and of *Paullinia subrotunda* are edible. The leaves of *Cardiospermum Helicacabum*, a plant indigenous to this Government, are eaten in the Moluccas.

N. O 49. RHIZOBOLACEÆ presents us with *Caryocar butyrosum*, the *Souaria*, *Suwarrow*, or *Surwha Nut-tree* of Demerara.

N. O. 50. MELIACEÆ, *Milnea dulcis*, *Lansium domesticum*, the *Lansium*, and a species of *Sandoricum* the *Santoor* of the Malay Archipelago, yield edible fruits.

N. O. 53. VITACEÆ. *VINEWORTS.*

Vitis vinifera. *W.* *Common Grape.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit, and in conserve, and pickle.

Vernacular. *Draksha*, Sans. Beng. *Drakhyaluta*, Beng. *Dakh*, *Angoor*, Hind. *Kodrimoondrie*, Tam. *Dracha Kisumisu-chettu*, Tel. *Wæl-midi*, *Oowus*, Cey. *Kerm* (vine), *Anub* (grape). *Umaseen* (juice), *Meweez*, *Zebeeb* (raisin), Arab. *Ungoor*, Pers. *Booangoor*, Malaya.

Habitat. Persia. Cultivated through the old world from India to the 51° North.

Remarks. First mentioned by Moses in the history of Noah. Is the *ἄμπελος οἰνοφόρος* of the Greeks and the *Vitis Sativa* of Pliny. Homer mentions the vine in his description of the garden of Alcinous, Odys. vii., and elsewhere.

Herodotus (Euterpe, ch. 77) says the Egyptians "have no vines in their country." *Raisins* are dried grapes, *Currants* the dried *uvæ* of a small *Corinthian* variety.

N. O. 54. GERANIACEÆ, *Geranium parviflorum* has a root eaten in Australia ; and *Pelargonium triste*, tubers eaten at the Cape of Good Hope.

N. O. 56. OXALIDACEÆ. *OXALIDS.*

Averrhoa Bilimbi. *W. Bilimbi.*

Linn. Syst. Decandria Pentagynia.

The fruit,—eaten as a fruit, and in pickle.

Vernacular. *Kurmurunga?* Sans. *Kamarunga,* Beng. Hind. *Anvulla,* By. *Wilumpi,* Mal. *Bilimbi,* Tam. *Bilin,* Cey. *Blimbing,* Malaya. *Bessee,* Sumatra.

Habitat. East Indies.

Remarks. First described by Bontius.

Averrhoa Carambola. *W. Carambola.*

Linn. Syst. Decandria Pentagynia.

The fruit,—eaten both as a dessert and tart fruit.

Vernacular. *Meetha-kamarunga,* Hind. Beng. *Kumruck,* Dec. *Kurmul,* By. *Tamara-tonga, Kamaranga,* Mal. Cey. *Tamartam,* Tam. *Blimbing-manis,* Eastern Archipelago.

Habitat. East Indies.

Remarks. First unequivocally described by Garcias ab Orto, and Bontius.

Oxalis corniculata. *L. Procumbent Oxalis.*

Linn. Syst. Decandria Pentagynia.

The leaf,—eaten as a small salad, garnish, and potherb?

Vernacular. *Amla-lonika, Amlika, Ambashta, Chookrika, Shooklika,* Sans. *Amrool,* Beng. Hind. *Ambuti,* Hind. Dec. *Pooliaray,* Tam. *Pulla-chinta,* Tel. *Hememdab, Hemda, Homadmad,* Arab.

Habitat. Great Britain, Egypt, India. *O. Acetosella* is the *common Oxalis* of England; and *A. crenata* of Lima yields eatable tubers; as also *O. deppei.*

N. O. 58. TROPÆOLACEÆ, *Tropæolum majus, Great Indian Cress,* and *T. tuberosum* yield eatable tubers in Peru.

N. O. 62. ZYGOPHYLLACEÆ, *Zygophyllum Fabago,* the *Bean Caper,* so called from its buds, like the unripe fruit of *T. majus,* is used as a substitute for Capers.

N. O. 68. CELASTRACEÆ, the drupes of *Elæodendron Kubu,* are eaten at the Cape of Good Hope.

N. O. 70. RHAMNACEÆ. *RHAMNADS.*

Zizyphus Jujuba. *Lam. Blunt-leaved Zizyphus.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit, and in pickle and conserve.

Vernacular. *Koli, Kurkhunda, Vadari, Phenila?* Sans. *Kool, Budree, Narikelee-kool,* Beng. *Bier, Bair, Beri, Nazuc, Jharberi,* Hind. *Perintoddalei, Elentha,* Mal. *Elandei,* Tam. *Rengha, Reyghoo,* Tel. *Maha-debara, Ilanda, Masan,* Cey. *Sidr, Nabik,* Arab. *Konar,* Pers.

Habitat. North Africa, Arabia, India.

Remarks. First unequivocally described by Van Rheede. *Z. Lotus,* has been thought the Lotus of the Lotophagi, now referred to *Nitraria tridentata,* N. O. Malpighiaceæ. *Z. xylopyra,* W. the *Gootee,* and *Z. rugosa,* Lam. the *Toorun* of this Presidency, have both palatable fruit. *Hovenia dulcis* has, like the Cashewnut, a succulent peduncle, much esteemed as a fruit in China.

N. O. 71. ANACARDIACEÆ. *ANACARDS, or TEREBINTHS.*

Anacardium occidentale. *W. Common Cashew.*

Linn Syst. Enneandria Monogynia.

The fruit,—eaten as a nut; and the succulent peduncle, as a fruit.

Vernacular. *Beejara-sala,* Sans. *Hijilee-badam,* Beng. *Cajoo,* Dec. *Parunkimanvah, Peiteira-manjo,* Mal. *Moondri,* Tam. *Jidi-memidi, Muntamamedi,* Tel. *Watu-caju,* Cey. *Cadju,* Malaya. *Jamboo-eerong,* Sumatra.

Habitat. South America. Naturalized in Malabar, Coromandel, Chittagong, Trichinopoly.

Remarks. First described by Thevetius.

Buchanania latifolia. *Rox.*

Linn. Syst. Decandria Pentagynia.

The kernel,—eaten as a nut.

Vernacular. *Piyala,* Sans. Beng. *Peeyar, Cheroonjie,* Hind. *Pyal, Charolee,* By. *Moræda, Mowda, Kat-mango, Tumbi,* Tam. *Tsa-roo-mamadi, Tsa-roo-puppoo,* Tel.

Habitat. Belgaum, Malabar, Coromandel.

Glycycarpus racemosus. *Dalz.*

The fruit,—eaten as a fruit.

Vernacular. *Amberee,* By.

Habitat. The Western Ghats.

Mangifera indica. *Linn.* *Common Mango.*

Linn. Syst. Polygamia Monœcia.

The fruit,—eaten as a fruit.

Vernacular. *Amra,* Sans. *Am,* Hind. Beng. Dec. *Mava,* Mal. *Mammarum,* Tam. *Makandamu, Mavi, Mamadichettoo, Tiyamamidi,* Tel. *Etamba* (wild), *Amba* (cultivated), Cey. *Mangga* (wild), Sunda. *Mampalam,* Malaya. *Palam,* Java. *Kapalam,* Lampung.

Habitat. East Indies. Cultivated near Muscat, and throughout the East, and in the West Indies; all the cultivated varieties appearing to have originated in India.

Remarks. First described by Garcias ab Orto, Bontius, and Kamel. The Archipelagic names of the cultivated Mango are all, according to Crawfurd, derived from the Sanscrit "Maha-pahala." Through the agency of Europeans, however, the corrupted form of the Sunda name for the wild Mango, is becoming prevalent throughout the East, from the Philippines to Madagascar, and has extended even to the West Indies. The Mangos of Mazagon were once celebrated.

Semecarpus Anacardium. *Linn.* *Marking nut.*

Linn. Syst. Polygamia Diœcia.

The kernel,—eaten as a nut.

Vernacular. *Nrooskura, Bullatakee,* Sans. *Bhela, Belawina, Bhelaman, Bhelawan,* Hind. *Biboo,* By. *Gheru,* Can. *Kampira,* Mal. *Shayngcottay, Shayrangcottay,* Tam. *Nellajidi, Jeedighenzadoo, Bhallataki, Bhallatamu, Tummeda-mamidi,* Tel. *Kiribadulla,* Cey. *Chaibin,* Pegu.

Habitat. India.

Remarks. The *ξανθοβάλανον* of Galen. See "Fruits and Vegetables," "Oil and Oil-seeds," and "Miscellaneous Class," and "Woods."

Spondias mangifera. *W. et A.*

Linn. Syst. Decandria Pentagynia.

The fruit,—eaten as a fruit.

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Vernacular. *Amrataka*, Sans. *Amra*, Beng. Hind. *Ambara*, Hind. *Ran-amb*, *Jungli-am*, Dec. *Cat-ambolam*, Mal. *Caat-maavu*, Tam. *Amatum*, *Adivie-mamadie*, Tel. *Æmbærælla*, Cey.

Habitat. India.

Remarks. Several species of *Spondias* have edible fruits as *S. purpurea* and *S. Mombin*, the *Hog Plums* of the West Indies; *S. Birrea*, of Abyssinia; and *S. dulcis*, the *Otaheite Apple*. *Pistacia vera*, Linn. a native of Persia, yields the Pistachio nuts of commerce. It is the πιστάκη of the Greeks and *Pistacia* of the Romans.

N. O. 72. AMYRIDACEÆ. *AMYRIDS.*

Garuga pinnata. *H. K. Wing-leaved Garuga.*

Linn. Syst. Decandria Monogynia.

The fruit,—eaten as a pickle.

Vernacular. *Toom*, Beng. Hind. *Koorak*, *Khanghur*, Dec. *Garugo*, *Kalugudu*, Tel.

Habitat. East Indies.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Adenanthera pavonina. *W. Yellow-flowered Adenanthera.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Koochunduna*, Sans. Hind. *Ructa-chunduna*, *Ranjuna*, Beng. *Mandateea*, Can. *Manseni-kotta*, Tel. *Mansiadi*, Cey.

Habitat. East Indies.

Remarks. The seeds are said to be eaten in South America, but the statement seems incredible.

Agati grandiflora. *Desa.*

Linn. Syst. Diadelphia Decandria.

The leaf, the pod, the flower,—eaten as vegetables.

Vernacular. *Agastia*, *Buka*, Sans. *Buka-agusta*, Beng. *Augusta*, By. *Agati*, Tam. and Mal. *Anisay*, Tel.

Habitat. India.

Remarks. See "Fruits and Vegetables" and "Gums and Resins."

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Tamarindus indica. *Linn. Common Tamarind.*

Linn. Syst. Monadelphia Triandria.

The pulp of the pod,—eaten in conserve and pickle.

Vernacular. *Umlika, Tintiree, Tintili,* Sans. *Nuli, Ambli,* Hind. and Beng. *Amlee, Tentool,* Beng. *Balam-pollie,* Mal. *Pollium,* Tam. *Chinta,* Tel. *Maha siyambala,* Cey. *Amblie, Tamarhindee, Homar,* Arab.

Habitat. India.

Remarks. First mentioned by the Arabians, Mesue, Serapion, Avicenna (Pereira). The ὀξυφοινίκα of Theophrastus (Sprengel). See "Fruits and Vegetables," "Condiments and Spices," and "Woods."

Trigonella Fœnum-Græcum. *Linn. Common Fennugreek.*

Linn. Syst. Diadelphia Decandria.

The herb,—used as a garnish in curries.

Vernacular. *Methee, Moothee,* Hind. *Methee-shak, Methika,* Beng. *Mathee,* Dec. *Mentia,* Can. *Vendiam,* Tam. *Mentluoo,* Tel. *Oolowa,* Cey. *Helbeh,* Arab. *Shimlet,* in the *Ulfaz Udwiyeh.*

Habitat. The Mediterranean countries. Cultivated widely in India.

Remarks The βούκερας of Hippocrates according to Sprengel. The other vegetables of this order common in this Presidency are given under "Agricultural produce—Pulse." The following not yet introduced are deserving of attention:—

Apios tuberosa, of Canada.

Bauhinia esculenta, of the Cape of Good Hope, the Yam-like root of which is eaten.

Dolichos bulbosus (?) of Polynesia.

Dolichos Soja, Soy of East Indies.

Geoffroya superba, Humb. et Bonp., of the Amazons.

Glycine subterranea, Voandzou of Madagascar.

Hymenæa Courbaril, Leathery-leaved Locust Tree of America.

Inga dulcis, Sweet Inga of East Indies.

Lathyrus tuberosus of Holland and Siberia, the tubers being the *Glandes Terræ* of old Pharmacologists.

N. O. 75. MORINGACEÆ. *MORINGADS.*

Moringa pterygosperma. *Gært. Smooth Horse Radish Tree.*

The root,—used as garnish; and the leaf, flower, and pod,—eaten as vegetables.

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Vernacular. *Sigroo, Sobhanjum,* Sans. and Beng. *Shajina,* Beng. *Moongay, Sujna,* Hind. *Sainga, Saigut,* By. *Mooringay,* Mal. *Nugga,* Can. *Moorunga,* Tam. *Moorungay, Moonaga,* Tel. *Merikoolu, Ganmurunga,* Cey.

Habitat. The two Indies, Africa.

Remarks. The seed of this plant are the *Ben-nuts* of old writers, and the *Hub-ool-ban* it is said of the Arabs; and, according to Lindley, the *Ben-oil* of watchmakers and jewellers is obtained from them. *Moringa aptera,* however, is the Arabian and African species, and within the writer's observation no oil is obtained from *Saigut* seeds in the Bombay Presidency. The "*Myrobalanum*" or "*unguent acorn*" of Pliny, and the *βάλανος* of Theophrastus and the Greeks are referred to the *M. pterygosperma.* I would take the liberty to suggest, however, that the seeds of *M. aptera* are truly meant by Pliny and other classical writers. Pliny mentions "*Balanus*" wood as inferior to that of the *Persea,* but "very durable." The wood of the *Saigut* is worthless. DeCandolle doubts the distinctness of the two species of *Moringa* under comment; and it may be that the Indian *Moringa,* although it has not the hard wood and oil-seed of the Arabian, African, and West Indian plants, is yet specifically identical with them. *M. aptera* is the *Yessur* of the Arabs, the long pod of which they call *Hab-ghâlee.* The seeds of neither plant have any connexion with modern Myrobalans, which see below N. O. 81. The root is an efficient substitute for *Horse Radish.* See also "Fruits and Vegetables," and "Gums and Resins."

N. O. 76. ROSACEÆ. *ROSEWORTS.*

Amygdalus Persica. *W.* *Common Peach.*

Linn. Syst. Icosandria Monogynia.

The drupe,—eaten as a fruit.

Vernacular. *Tuffah-parsee, Khowkh, Ferfik,* Arab. *Kalloo, Kardee. Aroo,* Pers.

Habitat. Persia. Well-established in all first-class gardens in the Deccan.

Remarks. The *μηλέα περσική* of Theophrastus and Dioscorides and *Persica* of Pliny. See "Drugs," N. O. 62. *Balanites ægyptiaca.*

Eriobotrya japonica. *Lind.* *Common Loquat.*

Linn. Syst. Icosandria di Pentagynia.

The fruit,—eaten as a fruit.

Vernacular. *Loquat,* China, By.

Habitat. China.

Remarks. Well established about Belgaum.

Fragaria elatior. *Ehrn.* *Hautboy Strawberry.*

Fragaria vesca. *Linn.* *Wood Strawberry.*

Linn. Syst. Icosandria Polygynia.

The succulent receptacle,—eaten as a fruit.

Vernacular?

Habitat. Britain.

Remarks. Well established in all first-rate Deccan gardens. This is a most profitable fruit to rear; a bed of a few square yards brings in from £15 to £20 the season. *F. vesca* is the Fraga of the Romans.

Parinarium excelsum. *Sals.* *Guinea Plum.*

Linn. Syst. Heptandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular.

Habitat. Sierra Leone?

Remarks. Naturalized in Goa.

Pyrus Malus. *Apple.*

Linn. Syst. Icosandria di Pentagynia.

The fruit,—eaten as a fruit.

Vernacular. *Seba,* Sans. *Seb, Seo,* Hind. *Tuffah,* Arab. *Seeb,* Pers.

Habitat. Britain.

Remarks. The μηλέα of Homer and Theophrastus. Pliny describes several varieties. It is very widely naturalized in India, but does not bear well. Besides the above the following Roseworts deserve attention, many of them being familiar importations from Persia and elsewhere:—

Amygdalus Persica, W. var. β *Nectarina,* the *Nectarine.* Vernacular. *Shuft aloo, Moondla aroo,* Pers.

Chrysobalanus Icaco, Cocoa-plum of West Indies.

Chrysobalanus luteus, Cocoa-plum of Sierra Leone.

Cydonia chinensis, Thouin. *Chinese Quince.*

Cydonia vulgaris, Common Quince. See "Drugs."

Mespilus germanica, Common Eatable Medlar. Vernacular. *Ukuj Shejerut ul dub*, Arab. *Keel*, Pers. *Laroos*, Vulg. Τὸ μεσπίλον ἐν 'Ιταλία of Dioscorides ; and *Mespilus*, var. *Letania* of Pliny.

Poterium Sanguisorba, W., Common Burnet of Britain.

Prunus Armeniaca, Common Apricot. Vernacular. *Khoobanee*, Hind. *Zurd-aloo, Chooloo, Chinaroo, Badam-kohee* (the kernel), Himalayas. *Pistah ?* By. *Burkook*, Arab. *Mishmish*, Pers. *Bakur-kohanee*, Bokhara. Μηλέα ἀρμενιακή of Dioscorides ; and *Præcocia minora* and *Malus Armeniaca* of Pliny.

Prunus Cerasus. Common Cherry. See " Drugs."

Prunus domestica, W. Common Plum. Vernacular. *Aroo*, Hind. *Bargug, Ejass* (a var.), *Idrick* (a var.), *Shahlooj* (a yellow var.), Arab. *Aloo, Aloo-cheh* (a small var.), *Shah-aloo* (a yellow var.), *Konar ?* (Zizyphas Jujuba ?) Pers. The προύνη of Theophrastus ; συριακή κοκκυμηλέα of Dioscorides ; and *Prunus* of Pliny.

Pyrus communis. Common Pear. Vernacular. *Umrood, Kumusra*, Arab. *Kummitri*, Egypt. *Nashpatee*, Pers. The ὄγχνη of Homer and Theophrastus ; ἄπιος of Theophrastus and Dioscorides, and *Pyrus* of Pliny.

Pyrus domestica. True Service Apple. The οὖη and οὖα of the Greeks, and *Sorbus* of Pliny.

Rubus fruticosus. Common Bramble.

Rubus Idæus, Raspberry. The βάτος ὀρθοφύης of Theophrastus ; βάτος ἰδαία of Dioscorides ; and " Rubus, called by the Greeks Idæus" of Pliny.

Rubus rotundifolius (Zurd-anchoo), R. fruticosus, R. lasiocarpus (Kul-anchoo), and *R. concolor*, are all found in Cashmere and yield good fruit. The fruit of *Rubus tiliaceus* of Smith, is eaten in the Fiji Islands. *Fragaria nubicola*, Wall. of the Himalayas resembles the European Strawberry. The Bissehur Peach (*Bhemee*) is Royle's *Persica saligna*. *Cerasus Puddam* of the Himalayas (the source of *Pudmak* bark) is used to flavour brandy. The *Aloobokhara* cultivated about Guznee is referred by Lindley to *Prunus bokhariensis*, Royle. Royle states *Kokamalis* (κοκκυμηλέα) is its Yonanee synonyme in Persian works on Materia Medica. The plum of Irki, Royle referred to *P. Aloocha*, and the plum of Ladak is Roxburgh's *P. trifolia. Pyrus sinica*, the *Sand Pear* of China, is cultivated in Northern India, and the indigenous species of the Himalayas, *Pyrus lanata, P. crenata*, and *P. Pashia* are all edible, the fruit of the two former being called *Paltoo* by the natives (*Royle*). These Roseworts, no less than the better known species previously enumerated, might be tried in Bombay. *Rubus lasiocarpus* indeed is indigenous to this Presidency.

N. O. 78. LYTHRACEÆ, the leaves of *Pemphis acidula* are used as a potherb along the shores of tropical Asia.

N. O. 81. COMBRETACEÆ. *MYROBALANS.*

Terminalia bellerica. *Rox.*

Linn. Syst. Polygamia Monœcia.

The kernel,—eaten as a nut.

Vernacular. *Vibheetakee*, *Buhira*, Sans. *Bulla*, *Beheyra*, Hind. *Buhura*, Hind. Beng. *Boyra*, Beng. *Bherda*, *Yehela*, *Bullah*, Dec. *Tamkai*, Tam. *Toandi*, *Tadi*, Tel. *Tani*, Mal. *Booloo*, Cey. *Pangah*, Pegu. *Beleyluj*, Arab. *Beleyleh*, Pers.

Habitat. India.

Remarks. See also "Tans" and "Woods."

Terminalia Catappa. *Linn.* *Broad-leaved Terminalia.*

Linn. Syst. Polygamia Monœcia.

The kernel,—Malay Almond, eaten as a nut.

Vernacular. *Inguddi*, *Hinghoodie*, Sans. *Badamie*, Hind. *Budam*, Hind. and Beng. *Jungli Badam*, *Badamie-hindee*, Dec. *Adamaram*, Mal. *Nattoovadamcottay*, Tam. *Vodamovettilla*, *Badamchettu*, Tel. *Cotumba*, Cey. *Cutappa*, Malay.

Habitat. Malaya. Cultivated in India.

Remarks. First described by Van Rheede. He figures also (Part 5. Tab. 47) *Colubrina asiatica (W. et A.)*, N. O. Rhamnaceæ, under the mame of *Katapa*. See also "Woods."

Terminalia chebula. *Rox.* *Oval-leaved Terminalia.*

Linn. Syst. Polygamia Monœcia.

The kernel,—eaten as a nut.

Vernacular. *Haritika*, Sans. *Hur*, *Harkara*, *Huldah*, *Hura*, *Umbedhur ?* Hind. *Huritukee*, Beng. *Heerda*, *Huldah*, Dec. *Arulay*, Mysore. *Kodorka*, Mal. *Kadukai*, Tam. *Karakbia*, *Sringi-tige*, Tel. *Araloo*, Cey. *Kayoo-bin*, Pegu. *Heliluj-kabulee*, Arab. *Helilehkeelan*, Pers. The unripe dry fruit is known by the following names, *Kurkadaga*, Sans. *Zengi-har*, Beng. *Singi*, Tam. *Ahleluj-aswud*, Arab. *Helileh-seeah*, Pers.

Habitat. Cabul, India.

Remarks. First described by Avicenna, and again by Bryenius, 17th century. See "Drugs," "Tans," and "Woods."

N. O. 82. Malastomaceæ. *Mouriria Puse*, has a small edible fruit.

N. O. 83. Alangiaceæ, the fruit of *Nyssa capitata*, is called the *Ogeechee Lime* because substituted for Limes. Other plants of the order also yield eatable fruit.

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N. O. 85. MYRTACEÆ. *MYRTLE BLOOMS.*

Jambosa malaccensis. *W. et A.* *Malay Apple.*

Linn. Syst. Icosandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Malacca-jamrool,* Hind. *Namball-paio,* Mal. *Jamboo-malacca,* Tam. *Watu-jambu,* Cey. *Jambu-kling,* Malaya.

Habitat. East Indies.

Remarks. First mentioned by Van Rheede.

Jambosa vulgaris. *W. et A.* *Narrow-leaved Eugenia.*

Linn. Syst. Icosandria Monogynia.

The fruit,—Rose Apple, eaten as a fruit.

Vernacular. *Jambu? Raja-jambu,* Sans. *Gulab-jam,* Hind. Beng. Dec. *Jumboonawel,* Tam. *Jumbooneredie,* Tel. *Rata-jambu,* Cey. *Goolab-jaman,* Pers.

Habitat. East Indies.

Remarks. First described by Garcias ab Orto.

Psidium Guayava. *Raddi.*

Linn. Syst. Icosandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Peyara, Anjeer, Lal-payara* (red), Beng. *Suffrijam* (white), *Amrut* (white), *Lal-suffrijam* (red), Hind. *Jam,* Dec. *Malacka-pela* (red), Mal. *Coia,* Tam. *Jama,* Tel. *Suda-pera* (white), *Ratu-pera* (red), Cey. *Jambu,* Malaya.

Habitat. West Indies. Naturalized throughout the East Indies.

Remarks. First noticed by De Valdes. *P. cattleyanum* of South America has purple fruit.

Punica Granatum. *Linn.* *Pomegranate.*

Linn. Syst. Icosandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Darimba,* Sans. *Anar, Gulnar,* Hind. *Dalim, Darim, Darmee,* Beng. *Madala,* Mal. *Madalum, Magilan,* Tam. *Dadima-pandoo, Puvvu danimma,* Tel. *Delumghedie,* Cey. *Ruman, Rana, Kilkul,* Arab. *Anar,* Pers. *Delema,* Malay. *Gangsalan,* Java.

Habitat. Northern Africa, Armenia, Mazanderan, Bokhara, Cabul, Cashmire. Cultivated widely in Asia.

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Remarks. Mentioned in the Bible (as Numb. xx. 5). Hippocrates calls the rind σίδειον and the grains κόκκωνες. It is the *Punicum Malum, Granatum,* and *Balaustium* of Pliny. He mentions a seedless variety, *Apyrenum,* as the most agreeable. The famous pomegranate of *Balabagh,* in Mazanderan, is also without seed, and is probably identical with the *Apyrenum* of the ancients.

Syzygium Jambolanum. *W. et A.*

Linn. Syst. Icosandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Jaman,* Hind. *Kalajam,* Beng. *Jambool,* Dec. *Perinjara,* Mal. *Nawel,* Tam. *Naredoo,* Tel.

Habitat. India.

Remarks. The berry of *Eugenia caryophylæum* is eaten in Ceylon. *E. cotinifolia* is the *Cayenne Cherry,* and *E. pseudo-Psidium* the *Bastard Guava* of the West Indies. *Eugenia Richii,* A. gray, produces edible fruit in Fiji.

N. O. 87. LECYTHIDACEÆ presents us with *Bertholletia excelsa,* the *Brazil* or *Castanha-nut* tree, and *Lecythis ollaria,* the tree which yields the *Sapucaya* or *Monkey-pot nut,* the finest of all nuts.

N. O. 88. BARRINGTONIACEÆ. The fruit of *Gustavia speciosa* is eaten by children in South America. It turns them bright yellow, but within 24 hours they are restored to their natural complexion. It would be pleasant to introduce this fruit for the mere sake of deceiving the standing Medical Committee. The fruit of *B. elcelsa,* Blume, is eaten in Fiji.

N. O. 90. HALORAGACEÆ. *HIPPURIDS.*

Trapa bispinosa. *W. et A.*

Linn. Syst. Terandria Monogynia.

The fruit,—eaten as a nut.

Vernacular. *Seringata,* Sans. *Panee-phul,* Beg. Hind. *Singara,* Hind. *Shingaree,* Dec. *Karim-polam,* Mal.

Habitat. India.

N. O. 92. CUCURBITACEÆ. *CUCURBITS.*

GOURDS.

Citrullus vulgaris. *Schrad.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular. *Meho,* Sind. *Dilpasand, Kachreh,* Pers.

Habitat. Cultivated in Sind and Goozerat.

Remarks. Cucumis Citrullus, Linn. *C. fistulosus,* Stocks. The parent of the *Water Melon?*

Coccinia indica. *W. et A.*

Linn. Syst. Diœcia Monadelphia.

The fruit,—eaten as a fruit and vegetable.

Vernacular. *Vimbika*, Sans. *Beemboo*, *Tela-koocha*, Beng. *Bhimb*, Hind. *Golaro*, Sind. *Covel*, Mal. *Cova*, Tam. *Kaydunda*, *Turulliamook-mool*, Tel.

Habitat. India.

Remarks. *Momordica monadelphia*, Rox.

Cucumis Melo. *W. et A. Melon.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a fruit.

Vernacular. *Kurbooja*, Beng. Hind. *Gidhro*, Sind. *Baka-coy*, Mal, *Molam*, Tam. *Rata-komadu*, Cey. *Beteekh* (Musk-melon), Arab. *Kirboozeh*, Arab. *Labofrangee*, Malaya.

Habitat. Persia? Cultivated over the world.

Remarks. The Cucumbers of Numb. xi. 14; the *σίκυος πέπων* of Hippocrates, the *σίκυος* of Theophrastus and Aristotle, according to Sprengel, and *σίκυη* vel *σίκυα* of Theophrastus, according to Fraas; the *σίκυς* of Dioscorides, according to Sprengel, and the *πέπων* of that writer according to Fraas; and the "Melon" of Pliny. According to Fraas, *C. sativus* is the *σίκυος* of Theophrastus, *Cucurbita Pepo* being the *σίκυα* of Theophrastus according to Sprengel.

Cucumis pubescens. *W. Pubescent Cucumber.*

Linn. Syst. Monœcia Monadelphia.

The fruit.

Vernacular. *Bun-gumuk*, Hind. *Chibbur*, Sind. *Kodi-budinga* or *-budama*, *Nella-budinga* (a var.), Tel. *Kœkeri*. Cey. *Raushanak*, Pers.

Habitat. Levant, Coromandel, Bengal.

Remarks. The parent of the Melon? It is the same as *C. maderas patanus*, Rox., *C. turbinatus*, Rox., and *C. cicatrisatus*, Stocks.

Cucumis sativus. *W. Common Cucumber.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a salad, and vegetable.

Vernacular. *Sookasa*, Sans. *Susha*, Beng. *Keera*, Hind. *Keera-kankurai*, Dec. *Mullen-belleri*, Mal. *Mooloo-velleri*, Tam. *Rata-kækeri*, *Pipingya*, Cey. *Kusud*, Arab. *Fakus*, Egypt. *Antimun*, Eastern Archipelago.

Habitat. East Indies. Cultivated over the world.

Remarks. The κολοκυνθὶς of Theophrastus, Hippocrates, and Aristotle, and κολοκύνθη of Dioscorides, according to Sprengel; and σίκυος ὠμός of Hippocrates, σίκυος of Theophrastus and σίκυος ἥμερος of Dioscorides, according to Fraas.

Cucumis utilissimus. *W. et A.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular. *Kankoor, Kurktee,* Beng. *Kakrie,* Hind. *Dos-kay, Pandili-dosa, Nakka dosa,* Tel.

Habitat. East Indies?

Cucurbita Citrullus. *W. et A. Water Melon.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a fruit.

Vernacular. *Chaya-pula, Kuttoo-toobie,* Sans. *Titu-laoo,* Beng. *Turbooj, Turmooz, Samauka,* Beng. Hind. *Hindano, Cauho,* Sindh. *Pitcha, Shakara-koomatei,* Tam. *Darboojie,* Tel. *Pitcha-ghedie? Komadu,* Cey. *Beteekh-zichee,* Arab. *Hinduwaneh, Tarboozeh,* Pers. *Mandekee, Samangka, Pataka,* Malaya. *Lamuja,* Lampung.

Habitat. South Europe. Cultivated widely.

Remarks. The πέπων of Theophrastus, and ἕτερος πέπων of Hippocrates, according to Sprengel. Fraas does not recognise it in the writings of the ancients.

Cucurbita Lagenaria. *W. Bottle Gourd, False Calabash.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular. *Ulavoo,* Sans. *Laoo, Kudoo, Toomba,* Beng. *Hurrea-kuddoo,* Sind. Dec. *Irav,* Sindh. *Bella-schora,* Mal. *Shora-kai,* Tam. *Anapa-kai, Ala-buvu, Anuga-kaya, Gubba-kaya, Kundamuga, Nelanuga,* Tel. *Diya-laba,* Cey. *Kaddu,* Pers. *Dubba-dibbe, Quara-tauvil, Quara-m'dauer,* Egypt.

Habitat. India.

Remarks Lindley states that some sailors were once poisoned by beer which had been standing in a hollowed bottle gourd; and that "there is reason to believe that some, if not all the edible sorts (of Cucurbits), owe

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their freedom from poisonous properties to cultivation, for some in a wild state are found to possess them in much activity." Livingstone, it will be remembered, mentions that the *Kengwe* or *Keme (Cucumis caffer)* of the Kalahari desert bears both sweet and bitter gourds. *Momordica Balsamina* also while eaten in some countries, is poisonous in others. *Cucumis caffer* bears large edible tubers.

Cucurbita Melopepo. *W. Squash Gourd, Red Gourd,* or *Melon Pumpkin.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular. *Suphuree-Koomra,* Beng. Hind. *Schakeri-schora,* Mal. *Pusani-kai,* Tam. *Gumudi, Kushmandamu, Bagala,* Tel.

Habitat. Levant. Widely cultivated.

Remarks. First mentioned by Avicenna. Is the *C. maxima* of many botanists.

Cucurbita ovifera. *W. Egg-shaped Gourd, Vegetable Marrow.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular.

Habitat. Astracan. Widely cultivated.

Remarks. A variety is called *Succade Gourd.*

Cucurbita Pepo. *W. Pumpkin,* or *White Gourd.*

Linn. Syst. Monœcia Monadelphia.

The fruit—eaten as a vegetable.

Vernacular. *Kurkuroo,* Sans. *Koshnanto,* Beng. *Koomra,* Beng. Hind. *Pandree-chickee,* By. *Cumbulam,* Mal. *Boorda-gomodoo, Cumbuly, Budadi-gumadi, Potti-gumadi,* Tel. *Alu-puhul,* Cey.

Habitat. Levant. Cultivated widely.

Remarks. The *σίκυα* of Theophrastus according to Sprengel; and *κολοκύνθη* of Hippocrates and Theophrastus, and *κολοκύνθα* of Dioscorides, according to Fraas. See *Cucumis Melo,* and *C. sativus. Cucurbita Pepo* var. *Calypeatus* is the *Turban Pumpkin.* This is the Melon, or Million of old English horticulturists,—the true Melon being their Musk Melon.

Luffa acutangula. *W. et A. Acute-angled Cucumber.*

Linn. Syst. Monœcia Pentandria.

The fruit,—eaten as a vegetable.

Vernacular. *Damargava?* Sans. *Jinga,* Beng. Hind. *Turi,* Hind. Sindh. *Toorai,* Dec. *Peechenggah,* Mal. *Peekunkai,* Tam. *Bira kaya,* Tel. *Djinji,* Malaya.

Habitat. India. Egypt?

Remarks. First described by Rumphius; and Alpinus? and is the *Marvellous Apple* of old Herbalists. Is the *Cucumis acutangulus* of Ainslie.

Luffa Pentandria. *W. et A.*

Linn. Syst. Monœcia Pentandria.

The fruit,—eaten as a vegetable.

Vernacular. *Doondool-ghoosa,* Beng. *Palo,* Nep. *Purula,* Hind. *Turi,* Sindh. *Goosalee-toorai,* Dec. *Nuni-beera,* Tel. *Khiyar,* Pers.

Habitat. East Indies.

Momordica Charantia. *W. et A. Hairy Momordica.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable, and pickle.

Vernacular. *Karavulli,* Sans. *Kurilla, Oochi, Poti-kakar,* Beng. Tel. *Carela,* Hind. *Karelo,* Sindh. *Purwud, Karaila,* Dec. *Pandi-pavel,* Mal. *Pava-kai,* Tam. *Kakerkai, Potti—, Tella—,* and *Ura-kakara,* Tel. *Karawila,* Cey. *Karelah,* Pers.

Habitat. East Indies.

Remarks. First described by Van Rheede.

Momordica dioica. *W. et A.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular. *Vahissee,* Sans. *Kurtoli,* Dec. *Erimapasel,* Mal. *Agokara, Angakara, Pooagakaratha,* Tel. *Tumba-karawilla,* Cey.

Habitat. India.

Momordica Balsamina. *Linn. Balsam-apple.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a pickle.

Vernacular. *Kurelo-jangro,* Sindh. *Mokah,* Arab. *Balesan,* Egypt.

Habitat. India.

Remarks. First mentioned by Dodonæus.

Telfaria pedata. *W. et A.*

Linn. Syst. Diœcia Pentandria.

The seed,—eaten as a nut.

Vernacular. ?

Habitat. Zanzibar.

Remarks. Was introduced from Zanzibar by Nimmo, but has died out. The seeds are as fine as almonds, and yield an abundance of fine bland oil. It would be a great benefit to re-introduce it; and all the Cucurbits deserve attention as a source of valuable oil.

Trichosanthes Anguina. *W. Common Snake Gourd.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a vegetable.

Vernacular. *Pottola?* Sans. *Chichinja, Jijinga, Jinga,* Beng. *Purwar,* Hind. *Kadotri, Rebhri,* Sindh. *Chichonda,* Dec. *Poodalungai,* Tam. *Poalkaya, Potlakaya, Podi-wilanga, Patola,* Tel. *Podi-wilanga,* Cey. *Petalu-ular,* Malaya.

Habitat. East Indies.

Remarks. First described by Breynius, and Micheli. *Sechium edule,* the *Chocho,* belongs to this order, and should be introduced.

N. O. 93. PAPAYACEÆ. *PAPAYADS.*

Carica Papaya. *W. Common Papaw.*

Linn. Syst. Diœcia Decandria.

The fruit,—eaten as a fruit.

Vernacular. *Papeya, Papaya,* Beng. Hind. Dec. *Pappoia, Umboalay,* Mal. *Puppali,* Tam. *Bopai, Madanaanapa, Madhurnakam, Boppayi.* Tel. *Pæpol,* Cey. *Papa,* Malaya. *Gadang-castila,* Bali.

Habitat. East Indies, Confederate States of America, Brazil. The fruit of *Panguim edule* is eaten in Japan and the Eastern Archipelago.

N. O. 95. PASSIFLORACEÆ. *PASSIONWORTS.*

Passiflora quadrangularis. *W.* *Square-stalked Passion-flower.*

Linn. Syst. Monadelphia Pentandria.

The fruit,—eaten as a fruit.

Habitat. Jamaica. Cultivated in Bombay.

Remarks. This is the *Granadilla* of the West Indies, but has not yet fruited in Bombay. *P. maliformis, P. edulis, P. laurifolia,* and other species, all furnish dessert fruits, as also do *Tacsonia mollissima, T. tripartita,* and *Paropsia edulis.*

N. O. 97. PORTULACACEÆ. *PURSLANES.*

Portulaca oleracea. *H. S.* *Small Purslain.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Lonika, Loonia,* Sans. *Mooncha, Loonia, Khursa, Kurfa,* Hind. *Moonya.* Hind. and Beng. *Buro-loonia,* Beng. *Karie-cheera,* Mal. *Dooda-gorai,* Can. *Caril-keeray. Puropookeeray,* Tam. *Peda-pail-kuru, Boddu-pavili-kura, Ganja-pavilikura,* Tel. *Genda-kola,* Cey. *Buklut-ul-hukema,* Arab. *Turuck, Kherefeh,* Pers.

Habitat. The temperate zone.

Remarks. The ἀνδράχνη of Theophrastus and Dioscorides, and *Porcilaca* of Pliny. The ἀνδράχνη of Theophrastus, or ἀνδράχλη as it is sometimes called, is the *Arbutus Andrachne* according to Sprengel, and has been confounded by ancients and moderns with Purslain. *Andrachne telephioides,* N. O. Euphorbiaceæ, is so called merely from resembling Purslain. Between this order, and the next furnishing our Indian fruits and vegetables, there are three deserving of notice.

N. O. 99. Crassulaceæ, *Rhodiola rosea,* is eaten as a vegetable in Greenland.

N. O. 100. Ficoideæ, *Mesembryanthemum edule* affords an edible leaf, and *M. aloides,* an edible root at the Cape; *M. geniculiflorum* is also eaten as a potherb in Africa, and the seed is ground into flour: and the fruit of *M. æquilaterale* (*Pigfaces,* or *Canagong*), is eaten in Australia: *Lewisia rediviva* is eaten in Canada and Maine under the name of *Spatulum.*

N. O. 101. Tetragoniaceæ, *Tetragonia expansa* is New Zealand spinage, and *Sesuvium repens* and *S. portulacastrum* furnish potherbs in tropical Asia.

N. O. 102. Cactaceæ, *Cactus Opuntia* has a fruit often eaten.

N. O. 103. GROSSULARIACEÆ.

Ribes Grossularia. W. Rough Gooseberry.

Ribes Uva-crispa. W. Smooth Gooseberry.

Ribes nigrum. W. Black Currant.

Ribes rubrum. W. Red Currant.

——— *a album, White Currant.*

N. O. 110. UMBELLIFERÆ. *UMBELLIFERS.*

Apium graveolens. *W. Celery.*

Linn. Syst. Pentandria Digynia.

The stalk,—eaten as a salad.

Vernacular. *Kerafs*, Egypt.

Habitat. Britain. Naturalized in India.

Remarks. The σέλινον of Theophrastus and the Greeks, the wild plant being their ἐλειοσέλινον.

Coriandrum sativum. *Linn. Common Coriander.*

Linn. Syst. Pentandria Digynia.

The herb,—eaten as a garnish, chiefly in curries.

Vernacular. *Dunya, Dhanyaca*, Sans. Hind. Ben. Dec. *Danga*, Mal. *Cottimbirry*, Can. *Cottamillie*, Tam. and Tel. *Cotumbaroo*, Cey. *Kuzeerah*, Arab. *Kushneez*, Pers. *Kurbara*, Egypt. *Mety*, Malay.

Habitat. Southern Europe, Tartary. Cultivated in India.

Remarks. Mentioned by Moses, Hippocrates, Theophrastus, Dioscorides, and Pliny, being the κορίαννον and κόριον of the Greeks. See also "Condiments and Spices."

Daucus Carota. *W. Carrot.*

Linn. Syst. Pentandria Digynia.

The root,—eaten as a vegetable.

Vernacular. *Grinjuna, Canjara*, Sans. *Gager*, India. *Gazeragedda*, Tel. *Istufleen, Juzir-ul-bostanee*, Arab. *Zardak*, Pers. *Djazar*, Egypt.

Habitat. Britain. Thrives luxuriantly in Mysore, the Southern Mahratta country, and Sholapoor and Poona Collectorates.

Remarks. The σταφυλῖνος ἄγριος of Theophrastus according to Fraas; and the *Staphulinos* of Pliny probably.

Pteroselinum sativum. *W. Parsley.*

Linn. Syst. Pentandria Digynia.

The leaf,—used as a garnish.

Vernacular. *Kussah, Yukhsis* (ä var.), Arab. *Karefs,* Pers. *Baqdunis,* Egypt.

Habitat. Sardinia. Cultivated over the world.

Remarks. The πτεροσέλινον of Dioscorides, and *Apium* of Pliny. The following Umbellifers might also be naturalized in India, many of them being already cultivated by amateurs:—

Anesorhiza Capensis. Cape of Good Hope (root).

Angelica Archangelica. W. Garden Angelica.

Arracacha esculenta. The *Arracacha* of Peru.

Bunium Bulbocastanum. W. Great Earth Nut.

Bunium ferulaceum. Topana of Greece (tubes).

Chærophyllum sativum. P. S. Garden Chervil.

Crithmum maritimum. W. Sea Samphire. The κρίθμον of Hippocrates and Dioscorides, and *Baticula* of Pliny.

Eryngium campestre. W. Field Eryngo.

Eryngium fœtidum. W. Stinking Eryngo, the *Culantra* of Panama.

Fœniculum capense. Cape of Good Hope (root).

Ligusticum Levisticum. W. Common Lovage. The λιγυστικὸν of Dioscorides according to Sprengel; and *Ligusticum* of Pliny.

Ligusticum scoticum. W. Scotch Lovage.

Myrrhis odorata. P. S. Sweet-scented Myrrh. The μυῤῥὶς of Dioscorides: and Myrrhis of Pliny.

Pastinaca sativa. W. Garden Parsnip. The σίσαρον of Dioscorides according to Sprengel, and his ἔλαφοβοσκον according to Fraas; and the *Pastinaca* of Pliny.

Sium Sisarum. W. Skirret. The σίσαρον of Dioscorides according to Fraas, and his ἔλαφοβοσκον according to Sprengel; and the *Siser* of Pliny.

Smyrnium Olusatrum. W. Common Alexanders. The ἱπποσέλινον of Hippocrates, Theophrastus, and Dioscorides; and *Olusatrum, Smyrnium,* and *Hipposelinum* of Pliny.

Besides these, *Anise, Common Cumin, Common Dill, Common* and *Sweet Fennel* might also be cultivated as garnishing herbs. The *Yampa* of North America, a much esteemed vegetable, is the root of *Common Dill.* See "Drugs" and "Condiments and Spices." The three following orders present edible species not indigenous to India:—

N. O. 111. ARALIACEÆ. *Aralia edulis,* China and Japan. *Casimiroa edulis, Zapote blanco* of Mexico. *Gannera scabra,* Chili. *Helwingia ruscifolia,* Japan.

N. O. 112. CORNACEÆ. *Cornus mascula, Cornelian Cherry.*

N. O. 113. CAPRIFOLIACEÆ. *Lonicera cœrulea,* Kamtchatcha (berries). *Sambucus nigra, Common Elder;* and *S. nigra* var. *a, viridis, Green-fruited Elder.*

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Mussænda frondosa. *Linn.*

Linn. Syst. Pentandria Monogynia.

The white leaf of the calyx,—eaten as a vegetable.

Vernacular. *Bebina,* Hind. *Sarwud, Bhootcase, Lanchout,* By. *Belila,* Mal. *Vella-ellay,* Tam.

Habitat. Concans, Malabar, Travancore, Coromandel, Nepaul.

Remarks. First described by Van Rheede.

Vanguieria spinosa. *Hort. Prickly Vanguieria.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit,—query narcotic?

Vernacular. *Pindeetuka,* Sans. *Muyuana, Muduna, Moina,* Hind. Beng. *Mainful,* Beng. *Aloo,* By. *Voa-vanguier,* Madagascar.

Habitat. Madagascar; Western India.

Remarks. Largely consumed by the labourers on the railway works in the hot season. See "Narcotics." The fruit of *Morinda citrifolia,* the *Aal* of this Presidency, is eaten in Australia, but is unfit for use here. *Coprosma microphylla* of this order is one of the plants called *Native Currants* in Australia. See N. O. 132 and 189. *Genipa america* yields the *Genipap* of South America: *G. brasiliensis* is also eaten, and the fruit of *Sarcocephalus esculentus* is the native Peach of Sierra Leone.

N. O. 117. VALERIANACEÆ, *Fedia cornucopiæ, Red Fedia* of South Europe, and *Veleriana edulis, Kooyah* of North America: and the leaves of species of *Valerianella,* the *Mâche* of France, and *Lamb's Lettuce* of England are eaten.

N. O. 120. COMPOSITÆ. *COMPOSITES.*

Carthamus tinctorius. *W. Officinal Carthamus.*

Linn. Syst. Syngenesia Æqualis.

The herb,—eaten as a vegetable.

Vernacular. *Cusumbha, Kamalottara,* Sans. *Koosumbha,* Beng. Hind. Tel. Dec. *Kajeerah,* Beng. *Koosum,* Hind. *Seendoorkum,* Tam. *Cossumb,* Cey. *Usfur,* Arab.

Habitat. Egypt. Widely cultivated in India.

Remarks. The κνῆκος of Hippocrates, Theophrastus, and Dioscorides. Safflower is cultivated in India chiefly for its flower and its seed. See "Oils and Oil-seeds" and "Dyes and Tans."

Cynara Scolymus. *W. Garden Artichoke.*

Linn. Syst. Syngenesia Æqualis.

The immature flower head, and bottom (receptacle),—eaten as a vegetable.

Vernacular. *Kunjir,* Hind. Pers. *Kharchiof, Hirshuf,* Arab, *Charsjuf,* Egypt.

Habitat. South Europe. Widely cultivated.

Remarks. The σκόλυμος of Dioscorides, Fraas conjectures.

Helianthus tuberosus. *W. Jerusalem Artichoke.*

Linn. Syst. Syngenesia Frustranea.

The tuber,—eaten as a vegetable.

Vernacular. *Bhramoka, Soorjya-mookhee,* Beng.

Habitat. Brazil. Widely cultivated.

Remarks. First described by Columna. *Jerusalem* (*Artichoke*) is a corruption of *gira sole,* the Italian for *turn* and *sun.*

Lactuca sativa. *De C. Garden Lettuce, Cos Lettuce.*

Linn. Syst. Syngenesia Polygamia-æqualis.

The herb,—eaten as a salad.

Vernacular. *Kahoo,* Hind. *Salada,* Cey. *Chaff,* Egypt.

Habitat. India ? Widely cultivated in Europe.

Remarks. The θρίδαξ of Greeks and Romans. Dioscorides mentions θρίδαξ ἥμερος and θρίδαξ ἀγρία. The first is considered the *Garden* and the second the *Strong-scented Lettuce.* Musa the brother of Euphorbus is

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said to have saved the life of Augustus by prescribing Lettuce *ad libitum.* See "Drugs." The following edible Composites also deserve attention in India :—

Artemisia Absinthium. W. *Common Wormwood.* The ἀψίνθιον of the Greeks.

Artemisia Dracunculus. W. *Tarragon.* *Tarchon*, Arab.

Calendula officinalis. W. *Common Marygold.* *Caltha luteola* of Virgil and *Caltha* of Pliny according to Salmasius and Sprengel.

Carduus Mariamus. Linn. *Our Lady's Thistle.*

Carduus virginianus. ? Thistle of the Rocky Mountains.

Cichorium Endivia. W. *Endive.* According to Sprengel the σέρις κηπευτὴ στενοφύλλος, and according to Fraas the θριδακοδέστερα σέρις of Dioscorides.

Cichorium Intybus. Linn. *Wild Succory.* The κιχώριον of Theophrastus ; and, according to Sprengel, the θριδακόδεστερα σέρις ; and, according to Fraas, the σέρις κηπευτὴ στενοφύλλος of Dioscorides.

Crepis parviflora. ? Used as a salad.

*Cynara Carduncul*us. W. *Cardoon.* Perhaps the κάρτος of Theophrastus.

Inula Helenium. W. *Elecampane.* The ἑλένιον of Hippocrates and Dioscorides ; and *Helenium* of Pliny.

Leontodon Taraxacum. W. *Common Dandelion, Deus Leonis;* probably one ἀφάκη of Theophrastus.

Onopordum Acanthium. Linn. *Woolly Cotton Thistle.* The ἄκανθος of Theophrastus ; but not the *Onopordum* of Pliny.

Scolymus hispanicus.

Scorzonera hispanica. W. *Garden Viper's Grass.*

Scorzonera deliciosa. ? *Scorzonera of Sicily.*

Spilanthes oleracea. W. *Esculent Spilanthes.*

Tanacetum vulgare. W. *Common Tansy.*

Tragopogon porrifolius. W. *Salsafy.* The τραγοπώγων of Theophrastus and Dioscorides : and *Come* of Pliny.

N. O. 122. GOODENIACEÆ. *GOODENIADS.*

Scævola Taccada. *Rox.*

Linn. Syst. Pentandria Monogynia.

The leaf,—eaten as a vegetable.

Vernacular. ?

Habitat. East Indies.

Remarks. Four orders must be here parenthetically noticed.

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N. O. 124. CAMPANULACEÆ.

Campanula Rapunculus. W. *Rampion.*

Canarina Campanula.

Cyphia glandulifera. Tubers eaten in Abyssinia.

Cyphia digitata. Tubers eaten at the Cape.

Phyteuma spicatum.

Specularis speculum.

Specularis pentagonia.

Specularis linarioides.

Wahlenbergia sp.

N. O. 128. VACCINIACEÆ.

Oxycoccus macrocarpus. Ph. *Large-fruited Cranberry* of America.

Oxycoccus palustris. P. S. *Common Cranberry.*

Vaccinium Myrtillus. L. *Bilberry,* or *Blæberry.*

Vaccinium uliginosum. ? *Black* or *Bog Whortleberry* of the Highlands.

Vaccinium Vitis Idœa. L. *Red Whortleberry* or *Cowberry.* Fraas considers *V. Myrtillus,* the ἄμπελος παρὰ Ἴδης of Theophrastus.

N. O. 129. ERICACEÆ.

Arbutus Unedo. W. *Common Strawberry tree.*

Arctostaphylos alpina.

Brossœa coccinea.

Gualtheria antipoda. }
Gualtheria hispida . . } Tasmania.

Gualtheria procumbens.

Gualtheria Shallon.

N. O. 132. EPACRIDACEÆ.

Astroloma humifusum, Tasmanian Cranberry.

Leucopogon richei, one of the plants called *Native Currants* in Australia. See N. O.'s 115 and 190.

Lissanthe sapida, Australian Cranberry.

Styphelia adscendens.

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N. O. 133. EBENACEÆ. *EBENADS.*

Diospyros chloroxylon. *Rox.*

Linn. Syst. Polygamia Diœcia.

The fruit,—eaten as a fruit.

Vernacular. *Ninei,* By.

Habitat. India.

Diospyros exculpata. *Ham.*

Linn. Syst. Polygamia Diœcia.

The fruit,—eaten as a fruit.

Vernacular. *Timboornee,* By.

Habitat. India.

Diospyros glutinosa. *Rox.*

Linn. Syst. Polygamia Diœcia.

The fruit,—eaten as a fruit.

Vernacular. *Sindica. Timbiri,* Sans. *Gab,* Beng. *Gaub,* Hind. *Timbooree,* Dec. *Panitisjika.* Mal. *Panichekai, Toombikai,* Tam. *Tumika,* Tel. *Maha-timbiri,* Cey.

Habitat. India.

Diospyros Goindu. *Dalz.*

Linn. Syst. Polygamia Diœcia.

The fruit,—eaten as a fruit.

Vernacular. *Goindu,* By.

Habitat. Western India.

Remarks. See N. O. 153. *D. Kaki* is the *Keg-fig* or *Japan Date Plum; D. virginiana, the Persimmon,* or *American Date Plum; D. Lotus,* the *European Date Plum, and* διόσπυρος of Theophrastus according to Sprengel. *Euclea ovata,* the *Kan Apple* of the Cape, has also edible fruit.

N. O. 135. SAPOTACEÆ. *SAPOTADS.*

Achras Sapota. *W. Common Sapota.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Kowut,* By. *Ratamee,* Cey.

Habitat. South America. Completely naturalized in Bombay.

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Remarks. A. mammosa, W. of South America has a fruit called Marmalade. It is also called *Mammee Apple,* a name also given to *Mammea americana,* N. O. 42. *A. Zapotilla* is the *Naseberry*.

Bassia latifolia. *Rox. Broad-leaved Bassia.*

Linn. Syst. Dodecandria Monogynia.

The enlarged calax,—eaten as a fruit.

Vernacular. *Mudhooka, Madooka,* Sans. *Mahwa, Muhooa, Moula,* Beng. Hind. *Mowa, Mowrah,* Dec. *Poounum,* Mal. *Caat, elloopei,* Tam. *Ipie,* Tel.

Habitat. East Indies.

Remarks. B. butyracea has an oily fruit, used as butter in Nepaul.

Mimusops hexandra. *Rox.*

Linn. Syst. Octandria Monogynia.

The fruit,—eaten as a fruit *teste* Dalzell.

Vernacular. *Kernee,* By.

Habitat. India.

Mimusops Kaki. *W. Obtuse-leaved Mimusops.*

Linn. Syst. Octandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Ksheerike,* Sans. *Ksheerni,* Beng. *Kheeri, Chirni,* Hind. *Boasoo, Manil-kara,* Mal.

Habitat. East Indies.

Remarks. The fruit of *M. Elengi* is eaten in some countries, but though the tree is common in this Presidency its fruit here is unpalatable. The *Bully* or *Bullet* tree of Guiana is a species of *Mimusops* with a delicious fruit. It is quite distinct from the *Black Bully* of America, which is *Achras Sapota* of this order. *Chrysophyllum Canito* of this order is the well known *Star-apple* of the West Indies.

N. O. 136. MYRSINACEÆ. Lindley states that the fruit of *Reptonia buxifolia* is exposed for sale in the bazars of Cabul under the name of *Goor-goora.*

N. O. 138. OLEACEÆ, *European Olive (Olea europæa),* the *Zait* of the Hebrews, and ἐλαία and ἀγριελαία of the Greeks.

N. O. 139. SALVADORACEÆ. *SALVADORADS.*

Salvadora persica. *Linn.*

Linn. Syst. Tetrandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Kubur*, *Khareedjar*, *Kharee-peero* (fruit), Sindh.

Habitat. Western Asia.

Remarks. Royle has proved this to be the "Mustard-tree" of Scripture. In Sindh, *Peero* with a prefix, is the name of three different fruits, viz. :—

Salvadora indica, Royle. *Meetha-peero*, also *Sadneejar*.
Solanum incertum, Don. *Ka(n)-peeroo(n)*.
Phyllanthus multiflorus ? *Peeka-peero*, also *Kamohee*.

N. O. 141. APOCYNACEÆ. *DOGBANES.*

Carissa Carandas. *Rox.* *Jasmine-flowered Carissa.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a tart fruit, and conserve.

Vernacular. *Krishnapak-phula*, *Sushenas*, *Avigna*, *Karamurdaca*, Sans. *Kurumcha*, *Paniamala* ? Beng. *Kurunda*, Hind. *Keelay*, Mal. *Kalaka*, Tam. *Waka*, *Pedda-kalevie*, *Oka*, *Vakudu*, Tel. *Maha-karamba*, Cey.

Habitat. East Indies.

Remarks. First described by Garcias ab Orto. *Oka* is also the Telunga for *Acacia Catechu*, and *Oka-mundel* the designation in this Presidency of the *Doum Palm*.

Carissa lanceolata. *Dalz.*

Linn. Syst. Pentandria Monogynia.

Vernacular.

Habitat. Western India.

Carissa spinarum. *Don.* *Spiny Carissa.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a tart fruit and conserve.

Vernacular. ?

Habitat. East Indies.

Remarks. This species is not indigenous to Bombay as *C. Carandas* is; but is completely naturalized. The fruit of *C. edulis*, and *C. tomentosa* are eaten in Abyssinia. The latter is indigenous in Western India, but its fruit is not palatable.

Roupellia grata. *Wall. Grateful Cream Fruit.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. ?

Habitat. Sierra Leone.

Remarks. Flowers richly in Bombay, but has not yet fruited.

N. O. 142. LOGANIACEÆ. *LOGANIADS.*

Strychnos Nux-vomica. *Linn. Poison Nut.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Veeshamoostie, Kulaka,* Sans. *Koochila,* Hind. Beng. *Kajra,* By. *Kariram,* Mal. *Yettie-marum,* Tam. *Moostighenza, Musadi,* Tel. *Koodakad-doorutta,* Cey. *Kha-boung,* Pegu.

Habitat. Concans, Travancore, Ceylon, Coromandel.

Remarks. See "Drugs." There can be no doubt, that this fruit is commonly eaten in the Concans, for the sake of the pulp enclosing its deadly seeds. Livingstone (Missionary Travels, ch. xiii.) states that the villagers of the Banyeti eat a variety of the Nux-vomica. "The pulp between the nuts is the part eaten, and is of a pleasant juicy nature, having a sweet acidulous taste. The fruit resembles a large yellow orange, but the rind is hard, and, with the pips and bark, contains much of the deadly poison. * * * The nuts swallowed inadvertently cause considerable pain, but not death; and to avoid this inconvenience the people dry the pulp before the fire, in order to be able the more easily to get rid of the noxious seeds." Burton also (Lake Region of Africa, ch. iii.) states that the Nux-vomica is eaten in Africa. The fruit is of an "*agro dolce* flavour, with a suspicion of the mango:"—and the nuts are swallowed with impunity, being too hard to digest. The pulp of the fruit *Strychnos Potatorum.* Rox. *Clearing Nut* is also eaten in India.

N. O. 146. Crescentiaceæ, the pulp of *Crescentia Cujete* is eaten by the negroes, as that also of *Tanæcium Jarowa* : *Parmentiera edulis* also yields an edible fruit in Mexico.

N. O. 147. Pedaliaceæ, the fleshy roots of *Craniolaria annua,* preserved in sugar, are eaten by the creoles.

N. O. 151. CONVOLVULACEÆ. *BINDWEEDS.*

Calonyction muricatum. *Don.*

Linn. Syst.

The tumid peduncles, with the unripe seed vessel, eaten as a vegetable.

Vernacular.

Habitat. India.

Convolvulus Batatas. *W.* *Tuberous Bindweed, Sweet Potato.*

Linn. Syst. Pentandria Monogynia.

The tuber,—eaten as a vegetable.

Vernacular. *Sharkara-kanda, Ruktaloo,* Sans. *Lal-* and *Suffaid-sukur-kundoo-aloo.* Beng. *Pendaloo,* Hind. *Gagar-lahori,* Sindh. *Rattaloo, Sakur-kund,* Dec. *Ghenasa,* Can. *Kappa-kalenga,* Mal. *Sukkaray-vullie,* Tam. *Sukkara-vella, Chilla-gada, Gra-sugade, Mohanam, Chiragadam, Genusugada,* Tel. *Batala (suda,* white; *retu,* red; *kaha,* yellow), Cey. *Zardak-lahori,* Pers. *Batatas,* Malaya and Mexico?

Habitat. East and West Indies.

Remarks. First described by De Valdes, Van Rheede, and Rumphius. It is the *Potato* of Shakspeare and old English writers. The "Kissing Comfits" of Falstaff were conserved Sweet Potatoes, and Eryngo root. *C. braziliensis* also has an edible root, and the root of *Ipomœa macrorhiza* is farinaceous.

N. O. 153. CORDIACEÆ. *SEBESTENS.*

Cordia angustifolia. *Don.* *Narrow-leaved Cordia.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit.

Vernacular. *Goond, Goondnee, Gondi,* Hind. *Liyar,* Sindh. *Nar-roovalli, Chinna botuku,* Tam. *Nukkeru,* Tel.

Habitat. Deccan.

Remarks. *Gondni* is the name also of a species of *Bulrush;* and *Goindu* of *Diospyros Goindu,* Dalzell, N. O. Ebenaceæ. See "Fruits and Vegetables," and "Woods."

Cordia Myxa. *Linn.* *Smooth-leaved Cordia.*

Cordia latifolia. *Rox.* *Broad-leaved Cordia.*

Linn. Syst. Pentandria Monogynia.

The fruit,—Sebesten plum.

Vernacular. **C. Myxa,**—*Bukampadaruka, Buhoovaruka,* Sans. *Lusora,* Hind. *Buhoorai,* Beng. *Lesooroo,* Sindh. *Bookhur,* Dec. *Vidi-marum,* Mal. Tam. *Nekra, Nakeru, Iriki, Pedda-botuku,* Tel. *Lolu,* Cey. *Sepistan,* Arab. *Sepistan, Pistan-sug,* Pers. *Mochajet,* Egypt. *Kendal,* Java. **C. latifolia,**—*Sheloo,* Sans. *Bhokur, Buralesoora,* Hind. *Burobuhooari,* Beng. *Gedooroo,* Sindh. *Burgoond, Vurgoond,* Guz. *Bokhur,* Dec. *Kicha-virigi-chettu,* Tel. *Sepistan,* Arab. *Sepistan, Pistan-sug,* Pers.

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Habitat. *C. Myxa,* Egypt, Arabia, Persia, Goozerat, Silhet. *C. latifolia,* India within and beyond the Ganges.

Remarks. The fruit of the latter is larger than that of the former species, and both constitute the Sebestena of old Pharmacopeiæ. *C. Myxa* has been considered the *Persea* of the ancients already shown to refer to *Balanites ægyptiaca:* it is very probably the *Myxa* and *Egyptian-plum* of Pliny, and certainly it afforded the wood of the Egyptian mummy cases. There is just a chance that it also may have been the *Persea* of Dioscorides, although the probability is that it is not, and that he, like Pliny, in describing the *Persea,* confounded it with the Persica or Peach. Sprengel refers the *Persea* to *Cordia Sebestena,* a species peculiar to the Antilles, and which Linnæus most unfortunately named after a renowned product of the old world. The seeds of *Cordia Myxa* are sold under the name of *Chakoon-ke-benge.* *Cordia subcordata,* Law, produces an edible kernel in the Fiji Islands. Under N. O. 154. BORAGINACEÆ, the leaves of *Symphytum officinale* may be substituted for Spinage, and its blanched sprouts for Asparagus. See "Drugs" and "Woods."

N. O. 157. SOLANACEÆ. *NIGHTSHADES.*

Lycopersicon esculentum. *Don. Love Apple, Tomato.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a salad and sauce.

Vernacular. *Wall-wangee,* By. *Seemie-takalie-pullam,* Tam. *Maha-rata-tamattie,* Cey. *Tamattie,* Malaya.

Habitat. South America. Cultivated widely.

Remarks. First described by Anguillara; but Fraas considers it may be the λυκοπέρσιον of Galen. It is the *Amorous* or *Golden Apple* of the Herbalists.

Physalis peruviana. *W. Eatable Winter Cherry.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a fruit, tart fruit, and conserve.

Vernacular. *Tapureea Tapeeriya, Tophlee,* Beng. *Macao,* Hind. *Budda-busara, Pambudda,* Tel.

Habitat. South America. Cultivated widely.

Solanum Melongena. *W. Egg Plant.*

Linn. Syst. Pentandria Monogynia.

The fruit,—eaten as a vegetable.

Vernacular. *Vartta,* Sans. *Bong, Bartakoo, Mahotee, Hingolee,* Sans. Beng. *Begoon,* Beng. *Baingan, Badanjan,* Hind. *Wangan,* Sindh. *Wangee,* By. *Valoothala,* Mal. *Kattrikai,*

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Valoothalay, Tam. *Wangkai, Chirivanga, Niru-vanga, Mettavanke.* Tel. *Wambatu*, Cey. *Badangan*, Arab. Pers. *Trong.* Malaya. *Badingan*, Sumatra. A long variety,—*Kootee*, Sans. *Gooti-begoon*, Beng. *Kodivelung-kattrikai*, Tam. *Neerwanga*, Tel. Another variety,—*Deergavartaka*, Sans. *Buri-byingun*, Dec. *Kaliana-katrikai*, Tam. *Kodikaloo-vankaia*, Tel.

Habitat. Africa. Cultivated round the globe.

Remarks. The στρύχνος of Theophrastus, and *Megilana* of the Abbess Hildegard according to Sprengel. The long variety Roxburgh makes a distinct species, *S. longum*. In Bombay there are several varieties, viz. *Doorlee-wangee*, round Brinjal; *Ban-wangee*, common, large Brinjal; and *Yel-wangee*, long, white Brinjal, of which a sub-variety is striped red (Graham). *S. ovigerum, S. nigrum, S. quitöense, Quito Orange, S. laciniatum, Kangaroo Apple*, and *S. æthiopicum* (cultivated in China), have all edible berries. *S. oleraceum*, and *S. anthropophagorum* are eaten as potherbs in the Fiji Islands. The Thorns of Prov. xv. 19, Briar of Micah vii. 4, Cockle of Job xxxi. 40, and Wild Grapes of Isaiah v. 2, are supposed to refer to species of Solanum (Balfour). The Rev. Dr. Wilson (Lands of the Bible, ch. xiv.) found *S. sanctum* Linn., in Palestine, where the Arabs call it *Leimún Lút*, a Lot's Lemon; and Dr. Wilson believes it to be the "*vine*" (Deut. xxxi. 32)

> "which grew
> Near that bituminous lake where Sodom stood."

Hasselquist (Lands of the Bible), under the names of "Mala insana," and "Poma sodomitica," refers this berry to *S. Melongena*. The true *Mad-Apple* however is *S. insanum*, called, according to Dr. Wilson, *Aneb-edh-dhib*, or *Grape of the Wolf*, by the Arabs. Dr Robinson (Lands of the Bible) believes the *Calotiopis gigantea*, our *Ak* or *Mudar*, to be the Apple of Sodom; but he can hardly have seen the true *Ak*, as Dr. Wilson writes of it as having a fruit of a "yellowish colour," and "certainly like an apple or orange in size and form." The passage in Deuteronomy is :—"Their vines are of the vineyard of Sodom, and of the suburbs of Gomorrha; their grapes are grapes of gall, and their clusters most bitter;" and probably refers to the austerity of the fruits of the plain of the present Salt Lake, rather than to any particular plant. The fruit of *Solanum Melongena (Brinjall)* is undoubtedly the *Mad Apple, Rage Apple*, or *Malam insanam* of the Herbalists.

Solanum tuberosum. *W. Potato.*

Linn. Syst. Pentandria Monogynia.

The tuber,—eaten as a vegetable.

Vernacular. *Alu-guddalu*, Tel. *Rata-innala*, Cey.

Habitat, Peru. Its cultivation has spread from this over the whole earth, to Spitzbergen, Kamtschatka, and Tasmania.

Remarks. The *Papas* of Peru. It was introduced into Spain early in the 15th century, and from thence passed into Italy, and Austria. The colonists sent out to Virginia by Raleigh are supposed to have introduced it into England on their return home in July 1586. Gerarde figures it in his Herbal, 1597 ; but mentions it as having been then used like the Sweet Potato as a confection (Loudon). See *Convolvulus Batatas*, N. O. 151. For the genus *Capsicum*, see "Condiments and Spices."

N. O. 160. SCROPHULARIACEÆ. *Mimulus guttatus* furnishes eatable leaves.

N. O. 161. LABIATÆ. *LABIATES.*

SWEET HERBS.

Remarks. See "Condiments and Spices." The tubers of *Ocymum tuberosum* are eaten in Java and might be tried here.

N. O. 170. AMARANTACEÆ. *AMARANTHS.*

Amarantus oleraceus. *W. Eatable Amaranth.*

Linn. Syst. Monœcia Pentandria.

The herb,—eaten as a vegetable.

Vernacular. *Shada-nuteeya*, Beng. *Tamdoolja, Maat-tambree*, Dec. *Tota-kura, Erra-tota-kura, Tella-tota-kura, Mokka, Peruga-tota-kura*, Tel. *Sudu-tam-pala*, Cey. *Schedach-nindi*, Arab.

Habitat. East Indies.

Amarantus polygamus. *W. Hermaphrodite Amaranth.*

Linn. Syst. Monœcia Pentandria.

The herb,—eaten as a vegetable.

Vernacular. *Shakinee? Champa nuteeya, Poorika*, Beng. *Chundi-sag, Chuolee*, Hind. *Cholai-bajee*, Guz. *Choolae, Raggheree-ke-bajee?* Dec. *Molay-keeray*, Tam. *Erra-doggali-kura, Dagla-kura, Mola-kura?* Tel. *Sulu-koora-tampala*, Cey.

Habitat. East Indies.

Amarantus tricolor. *W. Three-coloured Amaranth.*

Linn. Syst. Monœcia Pentandria.

The herb,—eaten as a vegetable.

Vernacular?

Habitat. East Indies.

Amarantus tristis. *W. Round-headed Amaranth.*

Linn. Syst. Monœcia Pentandria.

The herb,—eaten as a vegetable.

Vernacular. *Jillaka*? Sans. *Maut-ke-bajee*? Dec. *Kuppei-kirei, Aray-keray*? Tam. *Quoi-tota-kura, Tantakura*? Tel.

Habitat. China. Cultivated in India.

Amarantus viridis. *W. Green Amaranth.*

Linn. Syst. Monœcia Pentandria.

The herb,—eaten as a vegetable.

Vernacular. ?

Habitat. Brazil. Cultivated in India.

Remarks. *A. frumentaceus, A. Anardhana*, and *Achyranthes Lappaca*, are cultivated in the east as corn crops. See "Starches."

N. O. 171. CHENOPODIACEÆ. *CHENOPODS.*

Beta vulgaris. *W. Common Beet.*

Linn. Syst. Pentandria Digynia.

The root,—eaten as a salad.

Vernacular. *Sulk,* Arab. *Paluk*? *Chukundier,* Pers. *Sælk, Sælg,* Egypt.

Habitat. South Europe. Widely cultivated.

Remarks. The σεῦτλον, τεῦτλον, and τεῦτλις of Hippocrates, Dioscorides, and Theophrastus, and *Beta sylvestris* of Pliny. The τεῦτλιον μέλαν of Theophrastus, and Black Beet of Pliny is a cultivated variety. *Beta Cicla,* W. *White Beet,* the τεῦτλιον λεύκον of Theophrastus, and White Beet of Pliny, is a distinct species. It is frequently seen in India, and is the *Sicula* of Catullus. (Loudon.)

Chenopodium viride. *Rox.*

Linn. Syst. Pentandria Digynia.

The herb,—eaten as a vegetable.

Vernacular. *Beto-sag, Betoya,* Beng. *Chakweet,* By. *Rockeb-el-djammel,* Arab.

Habitat. ? Cultivated in the Deccan, Bengal, and Arabia.

Remarks. *C. Bonus-Henricus,* W. *English Mercury,* is cultivated as Spinage at home, and has been successfully raised in Bombay.

Spinacia oleracea. *W.* *Common Spinage.*

Linn. Syst. Diœcia Pentandria.

The herb,—eaten as a vegetable.

Vernacular. *Paluk, Isfanaj,* Hind.

Habitat.? Cultivated in all temperate regions of the old world.

Remarks. The *Pinnis* of Bengal and Hindoostan, *Paluk* of Sindh, *Dumpa-bachchali* of Telingana, and *Isfanaj* of Persia would appear to be *S. tetrandra,* Rox. *Atriplex hortensis,* W. *Garden Orache, Mountain Spinage,* the ἀνδράφαξις of the Greeks, and *Atriplex* of Pliny, a native of Tartary, has been successfully grown in Bombay. *Theiygonum cynocrambe,* the κυνοκράμβη of Dioscorides is sometims used as a potherb.

N. O. 172. BASELLACEÆ. *BASELLADS.*

Basella alba. *W.* *White Malabar Nightshade.*
Basella cordifolia. *W.* *Heart-leaved Malabar Nightshade.*
Basella lucida. *W.* *Shining Malabar Nightshade.*
Basella rubra. *W.* *Red Malabar Nightshade.*

Linn. Syst. Pentandria Trigynia.

The herb,—eaten as a vegetable.

Vernacular. **B. alba,**—*Kalumbi,* Sans. *Suffet-pooi,* Beng. Hind. *Bayl-ke-butchla-ke-baji,* Dec. *Mayal-ke-bajee, Wahlea,* By. *Codipassalei-keeray,* Tam. *Tingke-batsali-koora, Alla-batsalla. Alubach-chali, Karu-bachchali,* Tel. *Sudu-niwiti,* Sans. **B. lucida,** and **B. cordifolia**?—*Oopodaki,* Sans. *Pooi,* Beng. Hind. *Coot-toopassalei-keray,* Tam. *Pedda-batsalla, Poti-b[illegible]sali-koora,* Tel. *Ma-pat-niwiti,* Cey. **B. rubra,**—*Pootika,* Sans. *Racta-bun-pooi, Pooi,* Beng. *Yerra-batsalla,* Tel. *Rat-niwiti,* Cey.

Habitat. East Indies.

Remarks. The above four plants are probably varieties of one another, and not separate species. *B. nigra,* W. is cultivated in China.

N. O. 174. PHYTOLACCACEÆ, *Phytolacca decandra,* the *Pocan* of the United States, although poisonous, is, when boiled, substituted for Asparagus with impunity. *P. acinosa* is eaten in the Himalayas.

N. O. 176. POLYGONACEÆ. *BUCKWHEATS.*

Rumex vesicarius. *Linn.* *Bladder Dock.*

Linn. Syst. Hexandria Trigynia.

The herb,—eaten as a garnish.

Vernacular. *Chuko,* Sindh. *Chueaka-ke-baji,* Dec. *Ambaree-chucka,* By. *Soori,* Cey. *Turshak,* Pers. *Humbæjl,* Egypt.

Habitat. Africa. Cultivated in the Deccan.

Remarks. R. Patientia, W. *Patience* of Italy, the λάπαθον κηπευτὸν of Theophrastus, and Dioscorides, and *Rumex sativus* of Pliny; *R. sanguineus*, W. *Bloody-veined Dock* of England; *R. scutatus*, W. *French Sorrel; R. acetosa*, W. *Common Sorrel;* and *R. acetosella*, W. *Sheep's Sorrel* of Britain, are all used either as Spinage plants or Salad. For *Fagopyrum esculentum* of this order, see "Starches." *Coccoloba uvifera*, W. is the *Round-leaved Sea-side Grape* of the West Indies. Between this order and the next, yielding indigenous fruits and vegetables, the following call for attention:—

N. O. 177. BEGONIACEÆ.

Begonia malabarica, and *B. tuberosa* both eaten as potherbs.

N. O. 178. LAURACEÆ.

Persea gratissima, W. *Avocado* or *Alligator Pear* of the West Indies. *Annona palustris*, W. *Cork Wood* of West Indies, yields the *Alligator Apple*, an austere, narcotic fruit.

N. O. 181. MONIMIACEÆ.

The *Boldu* of Peru, which yields an aromatic fruit belongs to this order.

N. O. 182. PROTEACEÆ. *Brabejum stellatum;* the seeds are roasted and eaten like chestnuts, and the shell forms a substitute for Coffee.

N. O. 183. ELÆAGNACÆ.

Hippophäe rhamnoïdes, W. *Common Sea Buckthorn* of Northern Europe, the berries of which are much eaten by the Tartars, and from which the fishermen of the Gulf of Bothnia prepare a rob, used with fresh fish. (Loudon.) *Elæagnus orientalis* is the *Zinzeyd* of Persia. *E. arborea* and *E. angustifolia* are eaten in Nepaul.

N. O. 185. THYMELIACEÆ.

Inocarpus edulis, the *If*, *Maipe*, and *Kata* of Táhiti, or Otaheite Chestnut.

N. O. 189. SANTALACEÆ.

Fusanus acuminatus, the *Quandong* or Australian Peach, the seeds of which are also edible; and *Leptomeria acida*, one of the Native Currants of Australia. See N. O.'s 115 and 132. *Cervantesia tomentosa* of Peru is valued for its almondlike seed.

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Cicca disticha. *W. Long-leaved Cicca.*

Linn. Syst. Monœcia Tetrandria.

The fruit,—eaten as a pickle.

Vernacular. *Hurfarori*, *Chelmeri*, Hind. *Cheramella*, *Huriphul*, *Nubaree*, Beng. *Urfalayoorie*, Dec. *Nelli*, Mal. *Cherambola*, Goa. *Arunelli*, Tam. *Cheremin*, Malaya.

Habitat. Cultivated throughout India.

Remarks. First described by Van Rheede.

Phyllanthus Emblica. *W.* *Shrubby Phyllanthus.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—eaten as a pickle.

Vernacular. *Amulki*, *Umrita*, Sans. *Amla*, Beng. *Aoula*, *Anooli*, *Amlaki*, *Aoongra*, *Aunwerd*, Hind. *Nelle*, Mal. *Nellie-kai*, Tam. *Usereke*, *Woosheriko*, Tel. *Awusada-nelli*, Cey. *Amluj*, Arab. *Amuleh*, Pers. *Boa-malacca*, Malaya.

Habitat. East Indies.

Remarks. The μυροβάλανους ἔμπλέτζ of Myrepsicus according to Sprengel. Compare its synonymes with those of *Cicca disticha*. Under N. O. 199. Urticacæ, we have *Gunnera scabra* used for tarts like the stalk of species of Rhubarb.

Trewia nudiflora. *Rox.*

Linn. Syst. Diœcia Polyandria.

Vernacular. *Petaree*, By.

Habitat. India.

N. O. 200. ARTOCARPACEÆ. *ARTOCARPADS.*

Artocarpus integrifolia. *W.* *Jaca.*

Linn. Syst. Monœcia Monandria.

The compound fruit, eaten as a fruit; and the seed, used as a nut.

Vernacular. *Kantal*, *Kental*, Beng. *Phunus*, Dec. *Tsjacka*, *Pilavoo*, Mal. *Pila*, Tam. *Panasa*, Tel. *Kos*, *Heralee*, *Gediya* (the fruit), *Wakara* (a var.), *Wæla* (a var.), Cey. *Booa-nanca*, *Sukun*, *Kluwi*, *Tambul*, Malaya. *Chopada*? Sumutra.

Habitat. East Indies.

Remarks. First noticed by Zanoni. The *Champada* of the Archipelago is smaller, but far superior in quality. *A. incisa*, W., *True Bread Fruit* of the South Sea Islands, has been successfully reared in Bombay, but has not yet fruited.

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Artocarpus Lakoocha. *Rox.*

Linn. Syst. Monœcia Monandria.

The fruit,—eaten as a fruit.

Vernacular. *Lakoocha,* Sans. *Dephul,* Beng. *Lowi,* By.

Habitat. India.

Ficus Carica. *W. Common Fig.*

Linn. Syst. Polygamia Diœcia.

The closed, succulent receptacle,—eaten as a fruit.

Vernacular. *Adamvara,* Sans. *Doomoor,* Beng. *Unjeer,* Dec. *Semicattie,* Tam. *Maydipoondoo,* Tel. *Rata-attikka,* Cey. *Tin,* Arab. Egypt. *Unjeer,* Pers.

Habitat. South Europe. Widely cultivated; and very successfully in the Deccan.

Remarks. Mentioned frequently in the Bible, the "wild fig" of our translation however being *Ficus Sycomorus,* the συκάμινος ἐν αἰγύπτω of Theophrastus, and which must not be confounded with the *Sycamine tree* of the Bible, the *Morus nigra,* Linn., or *Common Mulberry* of Italy, probably one συκάμινος of the Greeks. The fig is the ἐρινεὸς of Homer, and one kind of συκῆ probably of Theophrastus and Dioscorides. Pliny mentions several varieties of "Ficus." This fruit has played a great part in the history of man. The figs of Athens are said to have tempted Xerxes to the invasion of Athens, and with fig-leaves our first parents first clothed themselves. Pliny however tells the most striking anecdote in the history of the fig. "Cato, burning with mortal hatred to Carthage, anxious too for the safety of his posterity, and exclaiming at every sitting of the senate that Carthage must be destroyed, one day brought with him into the Senate-house a ripe fig, the produce of that country; exhibiting it to the assembled senators, 'I ask you,' said he, 'when do you suppose this fig was plucked from the tree?' All being of opinion that it had been but lately gathered,—'Know then,' was his reply, 'that this fig was plucked at Carthage the day before yesterday—so near is the enemy to our walls!'" Immediately after this the third Punic war commenced, and thus at last, as Pliny says, that mighty city, the rival of Rome for the sovereignty of the world during a period of a hundred and twenty years, fell by a fig! The term sycophant has its origin in the fig. Figs, Olives, Wine, and Honey were the staple products of Attica, and it is said that, with the view of increasing the stock of Figs, their exportation was forbidden; and hence those who, for a reward, gave information of their being smuggled away were called συκοφάντης. No such prohibition however existed during the period of Attica of which we have trustworthy record, and the more probable account (Boeckh) is that during some famine the sacred fig-trees were robbed, and a fig itself being worthless, and the punishment for the sacrilege severe, odium was attached to those who informed against the thief. The word once stamped with their meanness, would only be too applicable to a frequent trait of human nature ever to fall out of circulation.

Morus indica. *Rox.*

Linn. Syst, Monœcia Tetrandria.

The compound fruit,—eaten as a fruit.

Vernacular. *Tula*, Sans. *Toot,* Beng. Hind. Dec. *Coomblie*, Tam. *Rata-œmbilla*, Cey. *Babesaran*, Malaya.

Habitat. India.

Remarks. *M. nigra*, W. is the *Common Mulberry* of Europe; *M. alba*, W. the *White Mulberry* of China; *M. tartarica*, W. the *Tartarian Mulberry;* and *M. rubra*, W. the *Red Mulberry* of the West Indies. Between this and the next Indian order, the following edible species deserve attention. The seeds of *Antiaris toxicaria*, the *Upas* of Java are edible, as are also those of an *Artocarpus*, and of the *Musanga*, both trees of the Gold Coast. *Brosminum alicastrum* also yields edible nuts.

N. O. 201. ULMACEÆ.

Celtis australis, W. *European Nettle tree*, said by some of the ancients to be the Lotus of the Lotophagi.

Celtis occidentalis, W. *American Nettle tree, Hackberry.*

Celtis aculeata of Carribee Islands.

N. O. 202. STILAGINACEÆ. The Currant like drupes of many plants of this order are eaten.

N. O. 212. CORYLACEÆ.

Castanea vesca, W. *Common Chestnut.* The καστάναικον κάρυον of the Greeks probably, and *Nux Euboicæ* and *Glans Sardianæ* of some writers.

Corylus Avellana, W. *Common Hazel.* The θασίαι κάρυαι of Hippocrates, ἡ ἡρακλεωτικὴ of Theophrastus according to Fraas; *Nux Pontica* of Pliny. *Filberts* and *Cobs* are varieties.

Vernacular. Filberts,—*Bundook*, Arab. *Sindook*, Vulg.

Fagus ferruginea, W. *American Beech.*

N. O. 215. JUGLANDACEÆ.

Carya sulcata, W. } *Hickory nuts* of North America.
Carya alba, W. }

Carya glabra, W. *Hog nut* of North America.

Carya olivæformis, W. *Pekan nut* of North America.

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Juglans regia, W. *Common Walnut*. The καρύα περσικὴ of Theophrastus according to Sprengel; the "Glans Jovis" of the Romans; and *Egoz* of the Hebrews.

Vernacular. *Unkotha*, Sans. *Akrot*, Hind. Dec. *Jowz*, *Ukrufus*, Arab. *Charmaghz*, *Geerdigan*, *Jowz-roomee*, Pers.

Juglans cinerea, W. *Butter nut* of North America.

N. O. 220. CONIFERÆ.

Araucaria bidwillii, Hook. *Bidwell's Araucaria* of Moreton Bay.

Araucaria imbricata, W. of Chili.

Pinus fremontiana, Endl. *Nut Pine* of North America.

Pinus Pinea, W. *Stone Pine*. See "Drugs."

N. O. 221. TAXACEÆ.

Salisburia adiantifolia, L. T. *Maiden-hair-Fern-leaved Salisburia* of Japan.

N. O. 222. GNETACEÆ.

Gnetum Gnemon; the seeds are eaten in Abyssinia, and its leaves also as Spinage.

N. O. 223. CYCADACEÆ.

Cycas angulata of Australia.

N. O. 224. DIOSCORIACEÆ. *YAMS.*

Dioscorea aculeata. *W. Prickly-stemmed Yam.*

Linn. Syst. Diœcia Hexandria.

The tuber,—eaten as a vegetable.

Vernacular. *Mou-aloo*, Hind. Beng. *Kata-kelenga*, Mal. *Kantoo-kelangoo*, Tam. *Kaku-kukulala*, Cey.

Habitat. East Indies.

Remarks. *Goa Potato* of Bombay butlers.

Dioscorea alata. *W. Wing-stalked Yam.*

Linn. Syst. Diœcia Hexandria.

The tuber,—eaten as a vegetable.

Vernacular. *Kam-aloo*, Beng. Hind. *Kastsje-kelenga*, *Perinvullie-kelenga*, Mal. *Yamskalung*, Tam. *Rosakenda*, Cey.

Habitat. India.

Dioscorea bulbifera. *W. Bulb-bearing Yam.*

Linn. Syst. Diœcia Hexandria.

The bulb on the stem, and the root,—eaten as vegetables.

Vernacular. *Caroo-karinda,* By. *Katu-katsjil,* Mal. *Panu-kodol,* Cey.

Habitat. East Indies.

Dioscorea pentaphylla. *W. Five-leaved Yam.*

Linn. Syst. Diœcia Hexandria.

The tuber,—eaten as a vegetable.

Vernacular. *Kanta-aloo* ? Beng. Hind. *Shendorvail-chand, Oolsee,* By. *Nureni-kelangu,* Mal.

Habitat. East Indies.

Dioscorea sativa. *W. Common Yam.*

Linn. Syst. Diœcia Hexandria.

The tuber,—eaten as a vegetable.

Vernacular. *Perinvullie-kelengu* ? Mal. *Yamskalung* ? Tam. *Ratakodol,* Cey.

Habitat. West Indies ; widely cultivated.

Dioscorea triphylla. *W. Three-leaved Yam.*

Linn. Syst. Diœcia Hexandria.

The tuber,—eaten as a vegetable.

Vernacular. *Mar-chaina,* By. *Tsiagri-nuren,* Mal.

Habitat. Malabar.

Remarks. *Dioscorea bulbosa,* Rox. is also cultivated in India. The Fijians eat the tubers of *D. nummularia, D. alata,* and *D. aculeata.* In England the stems of *Tamus communis,* W. *Common Black Bryony,* the *ἀμπέλος μελάινα* of Dioscorides, have been used as Asparagus ; those of *T. cretica* are also used in Greece : and at the Cape *Testudinaria elephantipes,* Burch. *Common Elephant's foot,* or *Hottentot's Bread,* is eaten by the Hottentots. What is commonly called Caffre Bread belongs to N. O. 223. See "Starches."

N. O. 229. HYDROCHARIDACEÆ, *Euclea ovata,* has a fruit, eaten at the Cape.

N. O. 235. MUSACEÆ. *MUSADS.*

Musa paradisiaca. *W. Common Plantain.*

Linn. Syst. Hexandria Monogynia.

The fruit,—eaten as a fruit, and bread stuff.

Vernacular. *Kadali,* Sans. *Kach-kula,* Beng. Hind. *Maoz-kella, Kayla,* Hind. *Kail, Maoz,*-Dec. *Vellacoy,* Mal. *Valei,* Tam. *Komarettei, Arittie, Bouta-ariti, Chakrakelei, Kommuariti, Nalla-ariti,* Tel. *Anawalu-kesul, Khel-khang,* Cey. *Pesang,* Malaya. *Gadang,* Java. *Mowz,* Arab.

Habitat. India.

Remarks. The name of this delicious and uncloying fruit has been derived from Musa, the physician of Augustus, and brother of Euphorbus, after whom Juba called the virulent gum-resin Euphorbium. It is almost self-evident however, that it is derived neither from the physician of Augustus, nor from the Muses, but is simply the Arabic *Muza,* taste, signifying that the plantain is the delight of the palate as *Opium* is the juice, *Bark,* the bark, *par excellence. Muza* itself is referred by Lassen to *Moko* the Sanscrit for plantain. Humboldt states that Sanscrit books give two other names, viz. *bhanuphala,* (sun fruit) and *varana buscha;* and with reference to the "arbori nomen palæ, pomo arienæ" of Pliny, quotes from Lassen to the effect that "the Romans mistook the word *phala,* fruit, for the name of the tree; whilst *varana,* changed in the mouth of the Greek to *ourana,* was transformed into *ariena.* The Arabic *mauza* is probably from Moko, and *bhanu* seems to approach *banana.*" Pliny, copying from Theophrastus, says of the *pala* tree, that its leaf resembles "the wing of a bird, being three cubits in length, and two in breadth. It puts forth its fruit from the bark, a fruit remarkable for the sweetness of its juice, a single one (branch?) containing enough to satisfy four persons." Again, that the sages of India live upon its fruit, called *ariena.* There can be no doubt of the plantain being meant. But *Banana* can scarcely come from *bhanu,* the *Banana* being the *M. sapientum* of the West Indies. It has been thought by some to be the "tree of life" of the garden (*παράδεισον ἐν Εδέν—Paradisum voluptatis*) of Eden, and by others, who distinguish between the two, "the tree of knowledge of good and evil." St. Pierre in his way observes that the violet cone at the end of a branch of plantains, with the stigmas peering through like gleaming eyes, might well have suggested to the guilty imagination of Eve the semblance of a serpent, tempting her to pluck the forbidden fruit it bore, as an erect and golden crest. The grape, shaddock, cherry, apple, and many other pleasant fruits, have also been thought the "forbidden fruit;" the last from the passage of the Canticles, ch. viii. 5, "I awakened you under an apple tree; 'twas there your mother lost her innocence;" "as if," says Calmet, "Solomon had here intended to speak of the fall of the first woman." Observing parenthetically that the "tree of life" is probably one with "the tree of knowledge of good and evil," it appears to the writer absurd to attempt to identify it. Neither cherries, apples, figs, grapes, shaddocks, nor plantains can confer immortality and omniscience; and if ever a tree is found that can, there will probably be no place for it either in the system of Linnæus or of Jussieu. There are some very peculiar stories about

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these figurative trees, for any who may choose to search for them. The original habitat of the common plantain was probably from the Valley of the Euphrates, along the whole of the Sub-Himalayan tract, before the Deccan was joined to Asia by the formation of the alluvial plain of Hindoostan. The succulent herbaceous stem of this plant, crowned with large translucent green leaves, polished, parallel veined, and arranged as in the palms, render it one of the most grateful objects on which the eye can rest in the tropics, especially when in contrast with other vegetable forms. Its golden fruit, in handsome clusters,—each a weight for a man,—contains every element of animal food mixed with fragrant principles in such proportion, that at once it possesses all the wholesomeness and uncloying taste of the finest wheaten bread, and the attraction of the most delightful confection. Moreover it is more easily cultivated, and more prolific than even the potato, and is almost the only tropical fruit without stone or core of any sort, and which can be eaten unaided by any instrument without inconvenience, and indeed most conveniently. Well may it have been the primeval food of man, as certainly it has been associated with the Arian race from its earliest records; but the first chapters of Genesis are probably allegorical (Philo, St. Ambrose, Origen), (as strangely those will not admit who insist on the spiritual sense of Solomon's Epithalamium), and if any real plant was present to the mind of the writer, it was possibly the same as the *Som* of the Vedas, and *Hom* of the Zend Avesta.

Of this order *M. maculata* and *M. sylvestris, Heliconia humilis,* and *Ravenala speciosa,* have edible seeds, or fruits. The *Ensate* of Abyssinia mentioned by Bruce is a Musad. The following also may be mentioned:—

N. O. 236. IRIDACEÆ.

Barbiana hypogæa of the Cape has edible roots.

Gladiolus edulis, Eatable Corn-flag of Cape of Good Hope.

Trichonema edule, Socotra.

N. O. 237. AMYRILLIDACEÆ.

Alstræmeria salsilla, Eatable rooted Alstræmeria of Peru.

Gethyllis edulis, also of the Cape, has edible roots.

N. O. 238. HYPOXIDACEÆ.

Curculigo stans, the roots are eaten in the Marianne Islands.

N. O. 239. HÆMODORACEÆ.

Anigozanthus floridus, Hæmodorum paniculatum, Hæmodorum spicatum; the roots of all three eaten by the natives of Swan River.

Vernacular. *Kadali*, Sans. *Kach-kula*, Beng. Hind. *Maoz-kella*, *Kayla*, Hind. *Kail*, *Maoz*, Dec. *Vellacoy*, Mal. *Valei*, Tam. *Komarettei*, *Arittie*, *Bouta-āriti*, *Chakrakelei*, *Kommuariti*, *Nalla-ariti*, Tel. *Anawalu-kesul*, *Khel-khang*, Cey. *Pesang*, Malaya. *Gadang*, Java. *Mowz*, Arab.

Habitat. India.

Remarks. The name of this delicious and uncloying fruit has been derived from Musa, the physician of Augustus, and brother of Euphorbus, after whom Juba called the virulent gum-resin Euphorbium. It is almost self-evident however, that it is derived neither from the physician of Augustus, nor from the Muses, but is simply the Arabic *Muza*, taste, signifying that the plantain is the delight of the palate as *Opium* is the juice, *Bark*, the bark, *par excellence*. *Muza* itself is referred by Lassen to *Moko* the Sanscrit for plantain. Humboldt states that Sanscrit books give two other names, viz. *bhanuphala*, (sun fruit) and *varana buscha;* and with reference to the "arbori nomen palæ, pomo arienæ" of Pliny, quotes from Lassen to the effect that "the Romans mistook the word *phala*, fruit, for the name of the tree; whilst *varana*, changed in the mouth of the Greek to *ourana*, was transformed into *ariena*. The Arabic *mauza* is probably from Moko, and *bhanu* seems to approach *banana*." Pliny, copying from Theophrastus, says of the *pala* tree, that its leaf resembles "the wing of a bird, being three cubits in length, and two in breadth. It puts forth its fruit from the bark, a fruit remarkable for the sweetness of its juice, a single one (branch?) containing enough to satisfy four persons." Again, that the sages of India live upon its fruit, called *ariena*. There can be no doubt of the plantain being meant. But *Banana* can scarcely come from *bhanu*, the *Banana* being the *M. sapientum* of the West Indies. It has been thought by some to be the "tree of life" of the garden (*παράδεισον ἐν Εδέν—Paradisum voluptatis*) of Eden, and by others, who distinguish between the two, "the tree of knowledge of good and evil." St. Pierre in his way observes that the violet cone at the end of a branch of plantains, with the stigmas peering through like gleaming eyes, might well have suggested to the guilty imagination of Eve the semblance of a serpent, tempting her to pluck the forbidden fruit it bore, as an erect and golden crest. The grape, shaddock, cherry, apple, and many other pleasant fruits, have also been thought the "forbidden fruit;" the last from the passage of the Canticles, ch. viii. 5, "I awakened you under an apple tree; 'twas there your mother lost her innocence;" "as if," says Calmet, "Solomon had here intended to speak of the fall of the first woman." Observing parenthetically that the "tree of life" is probably one with "the tree of knowledge of good and evil," it appears to the writer absurd to attempt to identify it. Neither cherries, apples, figs, grapes, shaddocks, nor plantains can confer immortality and omniscience; and if ever a tree is found that can, there will probably be no place for it either in the system of Linnæus or of Jussieu. There are some very peculiar stories about

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N. O. 241. BROMELIACEÆ. *BROMELWORTS.*

Ananassa sativa. *Schult.* *Common Pine Apple.*

Linn. Syst. Hexandria Monogynia.

The mass of succulent bracts,—eaten as a fruit.

Vernacular. *Ananas,* Dec. Tel. *Pooreethee, Koida-cheeka,* Mal. *Anasa,* Tam. *Annasi,* Cey. *Anannas,* Arab. *Nanas,* Malaya, Java. *Manas,* Bali. *Lanas,* Madura. *Kamas,* Lampang. *Pandang,* Celebes. *Pina,* Phillippines. *Nanas,* Peru.

Habitat. Peru. Grows luxuriantly in parts of the Concan; and is a weed in Malaya and the Eastern Archipelago generally. Père Du Tertre calls it the "*King of Fruits*" because of its incomparable qualities "for which reason the KING OF KINGS hath placed a crown upon the head of it."—"The flavour partaketh of the peach, the apple, the quince, and the muscadine together."

N. O. 242. LILIACEÆ. *LILYWORTS.*

Allium Cepa. *W.* *Common Onion.*

Linn. Syst. Hexandria Monogynia.

The bulb,—eaten as a vegetable, and garnish.

Vernacular. *Palandu, Latarka,* Sans. *Pulantoo,* Beng. *Peeaj,* Hind. Beng. *Kembally,* Can. *Venggayum,* Tam. *Wolliguidda,* Tel. *Loono,* Cey. *Bussul,* Arab. *Bawangmera,* Malaya.

Habitat. ? Cultivated over the world.

Remarks. Mentioned Numb. xi., and is the κρόμμυον of Theophrastus and Dioscorides, and *Cepa* of Pliny. The following species of the genus are also more or less cultivated at large European stations, viz.:—

Allium Ascalonicum, W. *Shallot,* a native of Palestine, the ἀσκαλώνιον κρόμμυον of Theophrastus; *Ascalonia* of Pliny; *Ascalonitas* of the Capitularies of Charlemagne; and, according to Sprengal, the "Garlic" of Numb. xi. 11.

Allium Porrum, W. *Leek,* a native of Switzerland, the πράσον of Theophrastus and Dioscorides; *Allium Capitatum* of Pliny; *Porrus* of the Capitularies of Charlemagne; and *Leek* of Numb. xi. 11. Vernacular. *Puroo,* Beng. *Khorat,* By. *Koornas,* Arab. *Gundena,* Pers. *Korrat,* Egypt.

Allium Schœnoprasum, W. *Chives,* a native of Britain; the σκόροδον σχιστὸν of Theophrastus according to Sprengel; and the *Britta* of the Capitularies of Charlemagne.

Allium Scorodoprasum, W. *Rocambole*, a native of Denmark, the ὀφιοσκόροδον of Dioscorides according to Fraas, and his σκοροδοπράσον according to Sprengel, which Fraas makes *A. descendens*.

Allium sativum, W. *Garlic*, will be mentioned under "Condiments and Spices."

Asparagus officinalis. *W. Chard, Common Asparagus.*

Linn. Syst. Hexandria Monogynia.

The young shoot,—eaten as a vegetable.

Vernacular. *Hilyoon*, *Nagdown*, Hind. *Yeramya*, *Marchoobeh*, Arab. *Margeeah*, Pers.

Habitat. England.

Remarks. The young shoots of the Hop may be eaten like Asparagus. The following edible Lilyworts are also deserving of attention in India:—

Camassia esculenta, Lind. *Quamash* of Columbia, the bulb of which baked, form the chief winter food of the Indian tribes of that territory.

Cyanella lineata of the Cape of Good Hope, where its bulb is eaten.

Dracœna ferrea, Linn. The root is eaten by the Polynesians.

Dracœna terminalis, or *Cordyline Ti*, the *Ti* of Australasia, which supplies at once food, sugar, and an intoxicating drink.

Lilium kamtschaticum;

Lilium Pomponium, W. *Scarlet Pompone;*

Lilium spectabile, Link. *Showy Lily;*

Lilium tenuifolium, Fis. *Slender-leaved Lily;* have all bulbs eaten as food in Siberia.

Ornithogallum umbellatum, W. *Common Star of Bethlehem* is deserving of note also, as its bulb is supposed to be the *Chirionim* or *Pigeons' Dung* of 2 Kings, vi. 25. (Balfour.) According to Fraas it is the βόλβινη of Theophrastus; ὀρνιθόγαλον of Dioscorides; and *Bolbine alba* of Pliny.

N. O. 245. PONTEDERIACEÆ, *Monochoria vaginalis*, when young is eaten as a potherb in India.

N. O. 251. PALMÆ. *PALMS.*

Borassus flabelliformis. *W. Fan-leaved Borassus, Palmyra.*

Linn. Syst. Diœcia Hexandria.

The nut,—eaten as food in innumerable forms; and the germ.

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Vernacular. *Tala*, Sans. *Tal*, Beng. Hind. *Tarie*, Hind. *Tar*, Dec. *Ampana, Carimpana*, Mal. *Panang-kulloo*, Tam. *Putootoadi, Tati-kulloo, Penty*, Tel. *Tal-yaha*, Cey. *Dom* (Forskal), *Tafi*, Arab. *Lontar*, Malaya.

Habitat. East Indies.

Remarks. Crawfurd, Tennant, and other writers state that the germ of this nut pushed to the first stage of growth, dried in the sun, constitutes a palatable vegetable; and that the same sun-dried and reduced to powder forms a flour held in the greatest esteem by the Dutch for its delicacy.

Cocos nucifera. *W*. *Common Cocoa-nut*.

Linn. Syst. Monœcia Hexandria.

The nut,—eaten in many ways.

Vernacular. *Narikela*, Sans. *Narikel*, Beng. *Narel*, Hind. *Tenga*, Mal. *Taynga*, Tam. *Tenkaia, Narikadam, Kobbari*, Tel. *Pol, Nawasi, Tæmbili*, Cey. *Jowz-hindee, Nardjil*, Arab. *Nur*, Malaya. *Kalapa*, Java.

Habitat. East Indies ?, possibly Central America.

Remarks. The first distinct mention of this plant is by the Arabs (Abuzeidi and Wahebi); and later it is described also by De Valdes (Sprengel). In Seeman's delightful book on "Palms," he tells us that the people of Ceylon attribute the discovery of the Cocoanut tree to a miracle. One of their great kings fell sick of a skin disease, and having suffered long of his physicians, and being nothing bettered, gave himself up to the will of God. In this pious state of mind he fell asleep beneath the *Bogaha* (Urostigma religiosum), the holy tree with the long-pointed leaf, and dreamed a dream of a tropic sea lying calm and blue beneath a tropic sun, a tranced sea of sapphire. And by its shores were groves of trees, strange to the dreamer. Their branches did not grow out on all sides as in the holy *Bogaha*, but they grew in a crown at the top of a trunk of great height; and the father of the god Boodh, the god which loves the shade of the *Bogaha*, stood before the dreamer, and pointing towards the groves of strange trees, said, "in that direction lies your remedy. One hundred hours' journey will bring you to those trees which thou hast seen in thy dream, and which thou shalt in their reality see, and eat of their fruit to thy healing. But as only on the top it is produced, by fire it must be obtained." And the king set out from Kandy, and in an hundred hours came to the coast of Ceylon, near Point de Galle, and saw the tropic sea, and the groves of heavenly trees, and ate of their fruit, and was healed. And on the face of a high rock of granite by the sea, he cut a large figure of himself seen by those who pass that coast to this day, for, said he, "I am a man of a small stature, and thus will show the greatness of my gratitude." This Cingalese story is one of many like it common among the people of the tropics, and but expresses the many uses of the Cocoanut.

> "The Indian nut alone is clothing, meat and trencher, drink and can,
> Boat, cable, sail, mast, needle, all in one."

The very form of this palm might have led tradition to give to it a divine origin. Every plant is indeed beautiful, and when looking at any one of them, it is difficult to allow that it is excelled in beauty by any other, for the humblest can give the fullest pleasure to the mind. But in the abstract review of plant forms, the palms claim the prize above all as the loftiest and most stately. The Royal Palm of Havanna (*Oreodoxa regia*) is considered a rival by many. The trunk, dull white, smooth, and perfectly upright, is gracefully spindle-shaped, like a colossal Havanna cigar: and on it rises a second column, formed by the long closely-clasp leaf stalks, as of polished green marble. The fronds, by reason of the stiff midrib, have a slight curve only. But the leaflets flutter in the slightest breeze, like those of the *Bamboo*; and this fluttering of the leaves, in contrast with the immobility of the trunk and the stiffness of the midribs, has a singular effect. But although the double shaft of the *Oreodoxa* is perfect as a piece of architecture, the Cocoanut excels it in glory of form, while its majesty and grace are enhanced also by the associations of its exceeding usefulness. As goodness of soul shining through a beautiful face makes it yet more beautiful, so the wisdom and beneficence of the Creator shown forth in the Cocoanut give to it a glory in the highest. The Palms, as an order, are remarkable for their economic value, illustrating how Nature when she restricts the flora of a country can endow it with all the more usefulness to man. Within the Artic circle mosses and lichens supply him not only with food, but with scents and dyes; and in the tropics the palms can satisfy every want, and almost every luxury. In our own seas sugar is obtained from the Palmyra, Cabbage Palm, Cocoanut, Date, and Gomuti; starch from the Palmyra, Cabbage Palm, Sago Palm, and Gomuti; oil from the Cocoanut; fibre from the Cocoanut and Gomuti; and toddy from the Palmyra, Cabbage Palm, Date, Cocoanut, Gomuti, and Nipa: and nearly all of these species have an eatable fruit and "cabbage." But great as are the gifts of the order, the Cocoanut alone concentrates them all in itself. It is possibly a native of Central America spread by ocean currents and cultivation almost universally along the intertropical shores of the old world and the new. In the East it is especially abundant in Ceylon, Sumatra, Java, and the Eastern Archipelago in Malabar and Coromandel; and hence I have referred its habitat to the East Indies. Along the western side of the Bay of Bengal it is found so high as Calcutta. It is said also to have reached Mocha, but it will not grow in Egypt: and thus its northern migration stops at the equatorial limits of the European grains. In the Southern hemisphere it is not known below the Sandwich Islands.

The *network*, at the base of the fronds, is used as a strainer, and for clothing. The *cabbage*, or tender leaf, boiled, is a delicate vegetable; and is also pickled and conserved. The *leaves* plaited, form "cadjans," used for fencing, roofing, matting, umbrellas, and cloaks, or rather portable sentry boxes. The alkaline ash obtained by burning worn-out "cadjans" is used for washing clothes. The *midrib* of the leaves is used for yokes, fishing-rods, pailings, stakes, wattling, brushes, combs, &c. The *sap* constitutes "toddy," a grateful and slightly aperient drink, and from it is also prepared "arak" and vinegar. The *spathe* or *flower sheath* is made into cases for knives and boxes. The *flowering stalk* and *immature nuts* are valued in native medicine for their powerful astringent properties: the *young husk* of the fruit is conserved; the *mature husk* affords "coir." The *shell* is made into drinking cups, "hookas," bottles, knife-handles, musical instruments, &c. Heated over the fire an empyreumatic oil drops from it, which is one of the best remedies for the obstinate herpes and eczema of India. It was this empyreumatic oil and the change of air which probably cured the royal sufferer of the Cingalese legend. Reduced to powder it is used as a toothpowder, and also as an antiseptic and disinfectant. The *milk* is a harmless drink, and also one of the best recipes for freckles. The *kernel* is one of the most delicious of nuts. It is universally used throughout India in cookery and confectionery. From the *fire-dried kernel*, or "copra," oil is expressed. The *oil-cake* is a valuable fodder for cattle. The young trunk is used for water channels. The gum which flows from it is rubbed on the hair to keep it smooth. The old trunk is one of the most valuable of timbers used in building and also in cabinet work, being in fact the Palmyra or Porcupine wood of cabinet-makers. It is easy after this enumeration of the uses of the Cocoanut tree to understand the love of the Cingalese for it. Sir Emerson Tennant states that in a case decided in the district court of Galle, the subject in dispute was a claim to the 2520th part of ten of these trees, illustrating at once the preciousness of the inheritance and the minute subdivision of property in Ceylon.

Cocoanut planting along the coasts of the Concans and Canara would prove a good investment for capital. But the habits of the tree must be carefully attended to. It is littoral, and will not thrive beyond the influence of the sea breeze. It is indeed found so far inland in Africa as Timbuctoo, and so far south as the Sandwich Islands, and as high north as Mocha, but stunted and unproductive. In the Sandwich Islands the small nuts are esteemed by the natives the greatest of luxuries; and man there, as elsewhere, having the making of the laws, the women were forbidden to eat them under pain of the vengeance of their gods. But it came to pass that a little girl ate of a nut, even before an idol, and no judgment came upon her, and the people from that hour left their false gods and turned to Christianity. And the women now, I have no doubt, get all the nuts, and make the poor men crack them.

Growing, and even producing fruit, is, however, not the same as thriving, and to thrive, the Cocoanut requires a tropical sun, a saline atmosphere, sandy porous soil, and abundance of fresh water. The best sites for plantations along the Concans would be those flanked by rivers. But there must be other conditions of success also not yet found out, for the Cocoanut does not grow at all on either side of the isthmus of Panama.

Hyphæne thebaica. *Mart.* *Doum Palm, Gingerbread Tree.*

Linn. Syst. Diœcia Hexandria.

The nut,—eaten as a fruit.

Vernacular. *Oka-mundel,* Diu Island.

Habitat. Egypt.

Remarks. This is the κόϊξ of Theophrastus according to Fraas, and *Cucus* of Pliny according to Fee.

Phœnix dactylifera. *Linn.* *Common Date Palm.*

Linn. Syst. Diœcia Triandria.

The berry,—eaten as a confection, conserved in its own sugar.

Vernacular. *Kurmah, Chuhara,* Hind. *Temr, Nukhel, Rutub* (the fruit), *Usteh-khurma* (the stone), Arab. *Khurma,* Pers.

Habitat. The Levant.

Remarks. The *Thamar* of the Bible, which gave its name to *Thamar* or *Tadmor,* until it was changed to Palmyra after the conquests of Alexander ; and wherever the palm is mentioned in the Bible, the date tree is meant. The dates of Palestine were famous in ancient times, especially those of Jericho, which is spoken of (Deut. xxx. 3) as "the city of palm trees." The Greeks called the tree φοίνιξ from *Phœnicia,* whence the best dates as already stated were brought, distinguishing the female as ἡ φοίνιξ βάλανηφόρος, and the male as ὁ φοίνιξ ἔρσην. The male flowers they called ἐλάτη (the name also of a Pine) and σπάθη, and the fruit φοινικοβάλανος ; although from Pliny's description of the Phœnico-balanus, or palm acorn, it is not clear whether he means the Date, or the fruit of *Hyphæne thebaica,* or even of *Elæis guineensis,* W. or *Guinea Oily Palm,* which is found in Upper Egypt. Homer in his hymns celebrates the sacred palm of Delos, which sprung from the ground on the birth of Apollo, and again refers to it in the Odyssey at the conclusion of the address of Ulysses to Nausicaa. Solomon it will be remembered in the *Song of Songs* compares his spouse to a palm (*i. e.* date) tree ; and Madame de Staël remarks that "the compliment would be very agreeable to a beautiful woman ;" as the two wisest men of antiquity would seem to have been aware. Calmet considers the comparison very just, because the palm tree with some of its branches hanging down like arms and some stuck up like the head, and its long trunk, resembles the human figure, as represented by the Egyptian sculptors. The Reverend Father appears to accept the comparison too literally, unless he implies that statuesque is meant. The meaning here, however, as in Homer, is obviously "full of dignity and grace" as the palm, "the prince of vegetation" of Linnæus, in the form of which there lies an inexpressible elegance and grandeur, fresh in its impression on the mind after years of familiarity as when first seen. The ancients carried the Palm-branch before their conquerors, the kings of Syria received a golden Palm-branch in tribute, and the Jews laid them on the altar of Jehovah in the Temple of Jerusalem. They symbolize all human pomp and victory, and Christ, entering Jerusalem to triumph over the world, trod under foot the palm branches cast down before him by the multitude. Herodotus mentions the date tree in several places. Thus bk. i. ch. 193, among the products of the plain of Babylonia, the inhabitants of which obtained from it bread, and wine (*toddy*), and sugar (*jagry*). Bk. ii. ch. 86, describing the practice of the Egyptian embalmers of washing the corpse after removing the brain and bowels, with palm wine. Bk. iv. chs. 172 and 182, referring to the date harvest of the Nasamonians: and bk. iv. ch. 194, in which he writes of the country of the Gyzantians, there "a vast deal of honey is made by bees, very much more however by the skill of men." Pliny states that Judæa was renowned for its dates even more than for its perfumes. The Date will not mature its fruit where the temperature sinks below 84°, nor will the Vine ripen where the mean annual temperature is above 84°. The conditions of both meet in Palestine. The date is also found in Egypt and Barbary, and throughout Mesopotamia. The Date of the Deccan is *Phœnix sylvestris*, Rox. *Khurjjooree*, Sans. *Sendhi*, *Kajar*, Hind. *P. farinifera*, W. *Small Date Palm* of Coromandel, *Sirrooeetchum*, Tam. *Chittaeita*, Tel. has a floury drupe eaten as a bread-stuff without preparation. See "Narcotics," "Sugars," and "Starches."

N. O. 253. JUNCAGINACEÆ. The root of *Potamogeton natans* is said to be eaten in Siberia.

N. O. 255. PANDANACEÆ. *SCREWPINES.*

Pandanus odoratissimus. *W.* *Green-spined Screw Pine.*

Linn. Syst. Diœcia Monandria.

The pulp of the fruit, and the tender leaf, as succedanea in times of famine.

Vernacular. *Cetaca*, Sans. *Ketukee.* Sans. Beng. *Kea*, Beng. *Keura*, *Ketgi*, *Gagandhool*, Hind. *Talum*, Tam. *Mugali*, Tel. *Wæta keyiya*, Cey. *Leram*, Nicobar. *Cadhi*, Arab. *Pandang*, Malaya.

Habitat. East Indies.

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Remarks. First mentioned by Serapion. The fruit is stated to be eaten in the Nicobars, and in times of famine in the Eastern Archipelago. The fruit produced in Bombay is not edible. N. O. 256. Typhaceæ. furnishes *Typha latifolia,* W. *Great Cat's tail,* and *T. angustifolia,* W. *Lesser Cat's tail,* both used in Britain like Asparagus. From *Typha elephantina,* the *Boree* of Sindh, and from *T. utilis* the *Hunga-hunga* of New Zealand are prepared. See "Starches."

N. O. 257. ARACEÆ. *ARADS.*

Amorphophallus campanulatus. *Blume. Campanulate Amorphophallus.*

Linn. Syst. Monœcia Polyandria.

The corm,—eaten as a vegetable.

Vernacular. *Kundah,* Sans. *Ol,* Hind. *Soorun,* By. *Karuna,* Mal. Tam. *Muncha-kunda,* Tel.

Habitat. East Indies.

Arum Colocasia. *W. Egyptian Arum.*

Linn. Syst. Monœcia Polyandria.

The corm,—eaten as a vegetable.

Vernacular. *Kuchoo, Kuchwee,* Sans. *Goori-kuchoo, Ashoo-kuchoo, Kala-kuchoo, Char-kuchoo,* and *Bun-kuchoo,* Beng. *Chama-kura,* Tel. *Gahala, Tadala, Habarala,* Cey. *Kalkas, Kur,* Arab.

Habitat. The Levant. Found in the Concans.

Remarks. Certainly included by Pliny within his description of Colocasia. The ancient Egyptian name would seem to have been *Aron,* whence the Greek *ἄρον*, applied to many species of this genus. The reader is referred for details to Salmasius, "De Homonymis," cap. cxiv. De nymphæa, and cap. cxv. De colocasia et fungis. *Arum maculatum,* W. *Common Arum* of Britain is the source of Portland Sago, and, according to Lindley, is "universally cultivated in India, and known there under the names of *Kuchoo* and *Gaylee.*" I am not aware of this. *A. trilobatum,* W. of Ceylon, and the West Indies ? has edible corms, as has also *A. esculentum* ? of Canada, the *Eddoe* or *Coco* of the West Indies according to Simmonds. *Arum indicum,* Lour. is the *Man-kuchoo* or *Manguri* of Bengal. *A. nymphæifolium,* Rox. the *Sar-kuchoo* of Bengal, Royle considers only a variety of *A. Colocasia,* or *Colocasia antiquorum,* as sometimes called, and *A. Ægypticum* by Rumphius, "Amb. v. fig. 109." *Caladium aquatile,* and *C. vicorum* of the latter botanist are also only varieties according to Roxburgh.

Caladium grandifolium. *W.* *Great-leaved Caladium.*

Linn. Syst. Monœcia Polyandria.

The root and leaf,—eaten as vegetables.

Vernacular. *Aloo,* By.

Habitat. Caracas. Common in Bombay.

Caladium ovatum. *W.*

Linn. Syst. Monœcia Polyandria.

The leaf,—eaten as a vegetable.

Vernacular. *Aloo,* By. *Maha-Ketala,* Cey.

Habitat. Concans ?

Caladium sagittifolium. *W.* *Arrow-leaved Caladium.*

Linn. Syst. Monœcia Polyandria.

The root and leaf,—eaten as a vegetable.

Vernacular. *Aloo,* By.

Habitat. West Indies. Common in Bombay.

Remarks. *C. grandifolium* and *C. sagittifolium,* though frequently met with in Bombay, are not commonly eaten, although edible, the latter being greatly prized in the West Indies. *Caladium Seguinum,* W. or *Dum Cane* of America is used in the West Indies and South America to set sugar ; and two years ago the writer failing to bring some (*Imphee* ?) syrup to a good grain, found that the native sugar-makers of Poona use the stalks of the three species of *Caladium* here catalogued for the purpose. The natives of Bombay could not have learnt this from the West Indies, and such remarkable coincidences of which Botany offers many instances, deserve the attention of philologists. Of this order also *Colocasia himalensis* forms the principal food of some of the hill tribes of the Himalayas ; and *Colocasia macrorhiza* yields the celebrated *Tarah* or *Kopeh* root of Polynesia and Australasia, now being cultivated in Britain. According to Simmonds the tuber of *C. costatum* is eaten by the natives of the Pedir coast. Other species are also nutritive. Of N. O. 258. Acoraceæ, *Calla palustris* of Lapland has edible rhizones.

N. O. 260. NAIADACEÆ. *NAIADS.*

Aponegeton monostachyon. *W.* *Simple-spiked Aponogeton.*

Linn. Syst. Hexandria Trigynia.

The tubers,—eaten as a vegetable.

Vernacular ?

Habitat. East Indies.

Remarks. *A. distachyon*, W. *Broad-leaved Aponogeton* of the Cape, has also edible roots, and those of *Potamogeton natans*, W. *Broad-leaved Pondweed,* are eaten in many countries. Of N. O. 265. Cyperaceæ, *Scirpus tuberosus,* is the *Pi-tsi* or *Water Chestnut* of China; *Cyperus esculentus,* W. the *Rush-nut* of South Europe; and *C. usitatus* of the Cape, and *C. bulbosus,* have also edible roots. For *Carex indica,* see "Starches."

N. O. 266. GRAMINEÆ. *GRASSES.*

CEREALS.

Remarks. See "Agricultural produce—Cereals." Although few of them are Eastern products, the edible species of the following cryptogamic orders are enumerated for the purpose of completing the list of "Fruits and Vegetables." They are chiefly taken from Balfour's "Class Book of Botany."

N. O. 267. FILICES.

Marattia alata, W., of Jamaica and Polynesia.

Pteris esculenta; Suz. *Esculent-Brake* of Australasia.

Cibotium billardieri? .. } of Tasmania.
Alsophila?............ }

The leaves of many ferns are eaten in Polynesia.

N. O. 273. LICHENES.

Cetraria icelandica, Ach. *Iceland Moss.*

Cetraria nivalis, Ach. *Snow Citraria* of North Europe.

Lecanora esculenta.

Lecanora affinis.

Stricta pulmonacea, Ach. *Liverwort Stricta.* The Kirghiz Tartars also eat an undetermined lichen under the name of Earth-bread.

N. O. 274. FUNGI.

Agaricus species, furnishing "Mushrooms;" principally *A. campestris,* Linn. *Common Mushroom* of English meadows; *A. Georgii,* Sowerby, *St. George's Agaric,* and *A. Prunulus,* Cæsalp. *French Mushroom.*

Boletus esculentus, Per. of Britain.

Cyttaria darwinii of Terra del Fuego.

Cyttaria berteroi of Chili.

Exidia hispidula of China.

Morchella esculenta, Pers. *Esculent Morel* of Europe.

Mylitta australis of Tasmania, weighs from 1 lb. to 11 lbs., and is called "Native bread."

Tuber æstivum of France.
Tuber cibarium, Sibth. *Common Tufflee* of Europe.
Tuber melanospermum of France.

N. O. 276 ALGÆ.

Chondrus mamillosus }
Chondrus crispus. . . . } Carrigeen Moss.
Fucus, species.
Laminaria saccharina, Tangle. This is said to find its way into India from the Caspian, being said to be the *Geelur-ke-putta* of the Bazars, used only in medicine here.
Laminaria esculenta, Badderlocks of Scotland; also known under the name of *Tangle.*
Nostoc commune of Arctic regions.
Porphyra laciniata, }
Porphyra vulgaris, } *Slouk* of Scotland, *Laver* of England.
Rhodymenia palmata, Dulse of Scotland, *Dillisk* of Ireland.
Alaria esculenta of Ireland, Faroe Islands, Denmark, Scotland, and Ireland.
Laminaria potatarum of Australia is food and furniture to the indigenes.
Suhria vittata of the Cape.
Nostoc edule of China.
Uva latissima, Green laver.
Uva compressa of Sandwich Isles.
Sargassum cuneifolium of Sandwich Isles.
Laurencia pinnatifida, Pepper Dulse.
Sargassum acanthocarpum . . . . }
Sargassum pyriforme . . . . } Asia.
Laminaria bracteola . . . . }
D'Urvillæa utilis of Chili.
Gigartina speciosa of Swan River.
Gelidium corneum, forming the Bird's nests eaten by the Chinese.
Gracilaria lichenoides, Ceylon Moss.
Gracilaria spinosa, Agar-Agar of the Eastern Archipelago and China.

DIVISION I.

Class 3. C.

SUBSTANCES, NOT NARCOTIC, USED IN INFUSION, DECOCTION, OR OTHERWISE IN SOLUTION OR MIXTURE WITH WATER, AS DRINKS.

Sherbets.

N. O. 33. TILIACEÆ. *LINDENBLOOMS.*

Grewia asiatica. *W*. *Asiatic Grewia.*

Linn. Syst. Polyandria Monogynia.

The fruit.

Vernacular. *Pulsha*, Beng. Hind. Dec. Tam. *Dowaniya*, Cey.

Habitat. East Indies.

Remarks. The berries of *G. elastica*, Royle, are used for the same purpose. See "Fruits and Vegetables."

N. O. 10. NYMPHÆACEÆ. *Nuphar luteuma;* the Turks prepare a cooling drink from its flowers, called *Pafer-ciceghi*.

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Citrus Aurantium. *Risso*. *Sweet Orange.*

Linn. Syst. Polyadelphia Polyandria.

The fruit,—Orange.

Vernacular. *Narunga*, Sans. *Naringee*, Hind. *Kumla-neeboo*, Beng. *Kitchlee*, Tam. *Kichili*, *Kittali-kaya*, Tel. *Dodan*, Cey. *Naruñj*, Arab. *Narindj-hælu*, Egypt. *Jarok-manis*, Malaya.

Habitat. China? Cultivated in India, South Europe, Azores, and West Indies.

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Citrus Bergamia. *Risso. Bergamot Citrus.*

Linn. Syst. Polyadelphia Polyandria.

The fruit,—Lime, Bergamot.

Vernacular. *Nimbooka,* Sans. *Nemboo,* Hind. *Neboo,* Beng. *Lemboo* ? Dec. *Eeroomitchee-narracum,* Mal. *Elemitchum,* Tam. *Nemma-pandoo, Gajanimma,* Tel. *Dehi,* Cey.

Habitat. South Europe : India.

Remarks. The *C. acida* of Roxburgh.

N. O. 70. RHAMNACEÆ. *RHAMNADS.*

Zizyphus Jujuba. *Lam. Blunt-leaved Zizyphus.*

Linn. Syst. Pentandria Monogynia.

The fruit.

Vernacular. *Koli, Kurkhunda, Vadari, Phenila* ? Sans. *Kool, Budree, Narikelee-kool,* Beng. *Bier, Bayr, Beri, Nazuc, Jharberi,* Hind. *Perintoddali, Elentha,* Mal. *Elandei,* Tam. *Rengha, Reyghoo,* Tel. *Maha-debara, Ilanda, Masan,* Cey. *Sidr, Nabik* (fruit), Arab. *Conar,* Pers.

Habitat. North Africa, Arabia, India.

Remarks. First described by Van Rheede, although supposed to be referred to by Diodorus under the name of Connarus.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Tamarindus indica. *Linn. Common Tamarind.*

Linn. Syst. Monadelphia Triandria.

The fruit.

Vernacular. *Umlika, Tintiree, Tintili,* Sans. *Nuli, Ambli,* Hind. Beng. *Amlee, Tentool,* Beng. *Balam-pollie,* Mal. *Pollium,* Tam. *Chinta,* Tel. *Maha-sirjambala,* Cey. *Amblie, Tamarhindee,* Arab.

Habitat. India.

Remarks. First mentioned by the Arabs; and the ὀξυφοινίκα of Myrepsicus.

N. O. 76. ROSACEÆ. *ROSEWORTS.*

Rosa centifolia. *Linn. Cabbage, Hundred-leaved,* or *Provins Rose.*

Rosa damascena. *Mill. Damask Rose.*

Rosa moschata. *Mill.*

Volatile oil of the petals,—Attar, or Otto of Roses; and volatile oil of the petals distilled with water,—Rose Water.

Vernacular. *Goolab-ka-phul,* Dec. *Wurd,* Arab. *Gul,* Pers. *Mawar,* Malaya.

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Habitat. R. centifolia, Persia. *R. damascena,* Levant. *R. moschata,* Nepaul.

Remarks. In the Mediterranean countries, *R. centifolia* is the flower used in the preparation of Rose-water and Attar; in India, *R. damascena;* and in *Persia,* probably *R. moschata.* Roses of different kinds were known to the ancients. Homer in several places sings of them, and of "rosy-fingered Aurora," in allusion probably to the practice of Eastern ladies colouring the tips of their fingers with various red substances, such as *henna.* Athenæus gives a passage from Stesichoros also, in which the flower is named:—

> Many a yellow quince was there
> Piled upon the regal chair,
> Many a verdant myrtle bough,
> Many a *rose crown* featly wreathed,
> With twisted violets that grow
> Where the breath of Spring has breathed.

Herodotus mentions the sixty-leaved roses of the gardens of Midas, and Theophrastus a ῥόδον ἑκατοναφύλλα. Dioscorides informs us also that the rose was used to perfume wines; that bathers leaving the bath were sprinkled with powdered rose-leaves; that the root of this plant was used like costus; and that carcanets compounded of nard, rose, costus, and other most precious perfumes (similar indeed to the Poona necklaces and bracelets of the present day), were worn by the ladies of Greece. Like the myrtle, hyacinth, and

> "violet dim
> But sweeter than the lids of Juno's eyes
> Or Cythereas' breath,"

the rose was amongst the chaplet flowers of Greece. The myth was that it sprung from the blood of Venus; and like the myrtle and apple it was sacred to that goddess. Rose Water and Attar are used to flavour various confections in the East. See "Sugars."

N. O. 85. MYRTACEÆ. *MYRTLEBLOOMS.*

Punica Granatum. *Linn. Pomegranate.*

Linn. Syst. Icosandria Monogynia.

The fruit.

Vernacular. *Darimba,* Sans. *Anar, Gulnar,* Hind. *Dalim, Darim, Darmee,* Beng. *Madala,* Mal. *Madalum, Magilan,* Tam. *Dadima-pandoo, Pavvu-danimma,* Tel. *Delumghedie,* Cey. *Ruman, Rana, Kilkul,* Arab. *Anar,* Pers. *Delema,* Malaya.

Habitat. Northern Africa, Africa, Armenia, Mazanderan, Bokhara, Cabul, Cashmire. Cultivated widely in Asia.

Remarks. See "Drugs," and "Fruits and Vegetables."

N. O. 112. CORNACEÆ. *Cornus mascula, Cornelian Cherry.* The Turks prepare a sherbet from this fruit.

N. O. 161. LABIATÆ. *LABIATES.*

Mentha sativa. *W. Tall Red Mint.*

Linn. Syst. Didynamia Gymnospermia.

The herb.

Vernacular. *Poodina,* Dec. *Widdetilam,* Tam. *Nana, Hubbah,* Arab.

Habitat. Temperate Europe and Asia.

Remarks. See "Drugs," and "Condiments and Spices." Sherbet (*Sharbat*) like the Latin *sorbeo,* and syrup, and shrub, is from the Arabic *sharaba,* to drink. A Sherbet is essentially water, sugared; but usually further flavoured with some perfume, fruit, conserve, or sweetmeat. Says Sir Thomas Herbert, of Sherbet, "it is a drink that quenches thirst and tastes deliciously. The composition is cool water, into which they infuse sirrop of Lemons and Rose-water; in these torrid countries (Gombrown) being the most refreshing sort of liquor that can be invented, albeit the wine there was so good that we refused not to drink it with moderation." The best account of Sherbets, the compiler has met with, is in Lane's delightful work on the Modern Egyptians. "The Egyptians," he writes, "have various kinds of Sherbets or sweet drinks. The most common kind is merely sugar and water, but very sweet: lemonade (*sherab-el-leymoon*) is another. The third kind, the most esteemed (*sharab-el-benefseg*), is prepared from a hard conserve of violets made by pounding violet flowers, and then boiling them with sugar; this violet sugar is of a green colour. A fourth kind (*Sharab-el-toot*) is prepared from mulberries: a fifth (*Sharab-el-hommeyd*) from sorrel. There is also a kind of sherbet (*Zebeeb*) sold in the streets, which is made with raisins, as its name implies. Another which is a strong infusion of liquorice root (*Erk-soos*), and called by the name of that root; and a third kind which is prepared from the fruit of the locust tree (*Karrob*), and called in like manner from the name of the fruit. The Sherbet is served in covered glass cups, generally called "kullehs," containing about three quarters of a pint; some of which (the more common kind) are ornamented with gilt flowers. The Sherbet cups are placed on a round tray, and covered with a round piece of embroidered silk, or cloth of gold. On the right arm of the person who presents the Sherbet is hung a large oblong napkin with a wide embroidered border of gold, and coloured silks at each end." No preaching will make men teetotallers, for the mind is drunk with wine red in the cup, before it passes the lips: but Sherbets with their elegant service, and fascinating associations, would probably check much of the mere idle bibbing of narcotic stimulants.

Sherbets called *Zoofa* and *Lilloofal* are also sold in Bombay, but being imported from Persia prepared, I am unable to refer their flavouring agents to any plants. *Zoofa* is the Arab name of *Common Hyssop.*

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DIVISION I.

Class 3. D.

NARCOTICS.

N. O. 6. MENISPERMACEÆ. *MENISPERMADS.*

Anamirta Cocculus. *W. et A.*

Linn. Syst. Diœcia Monadelphia.

The berry,—Cocculus Indicus, Cocques du Levant, Bacca Orientalis.

Vernacular. *Kakamari*, Sans. *Kakmari*, Hind. Dec. *Bacaen-kaphal*, Calcutta. *Jermœ*, Hind. Guz. *Kaka-collei-verei*, Tam. *Kakichimpoo-vetteloo*, Tel. *Pola*, *Kaandaka-conuveh*, *Garalaphala*, Mal. *Tuba-bidji*, Malaya.

Habitat. Concan, Malabar, Eastern Archipelago.

Remarks. First noticed by Plukenet. This berry is added to malt liquors to increase their intoxicating effect. Its action is due to the presence of a crystalline principle called *picrotoxine*. It is said to be largely employed by the liquor retailers of Bombay. In the Gurhwal mountains an ardent spirit is distilled from the root of *Cissampelos obtecta*, and in Arabia from the berries of *Cocculus Cebatha*, both plants being Menispermads. The Arabian spirit is called *Kumr-ool-majnoon*. The fruit of a species of *Ptelea*, Xanthoxylaceæ, has been similarly employed, and as a substitute for Hops, the catkin of *Humulus Lupulus*, Urticaceæ. Also the following, *Rhamnus pauciflorus*, and *R. Staddo*, N. O. 70, in Abyssinia; *Achillea Millefolium*, N. O. 120, *Ledum latifolium*, *L. palustre*, Ericaceæ, and *Myrica Gale*, Myricacæ, in Sweden; and *Salvia Sclarea*, Labiatæ, and *Crocus sativus*, Iridaceæ, in England. The fungus *Amanita muscaria* steeped in the juice of *Vaccinium uliginosum* N. O. 128, is used as an intoxicant in Kamschatka. When taken, it communicates its properties to the urine, which when drank acts even more powerfully than the fungus itself, and thus a small fungus is made to propagate its effects indefinitely; a providential arrangement which the Kamschatkans well appreciate in seasons of scarcity.

N. O. 13. PAPAVERACEÆ. *POPPYWORTS.*

Papaver somniferum *Linn.* *Garden Poppy.*

Linn. Syst. Polyandria Polygynia.

The concrete juice of the immature capsule,—Opium, Manus Dei; and the mature capsule,—Papaver, Poppy heads.

Vernacular. The plant,—*Chosa,* Sans. *Post,* Hind. *Pasto,* Beng. *Casa-casa,* Tam. *Cassa-cassa,* Tel. *Aboonôm* (father of sleep), Arab. The capsules,—*Post,* Vulg. Opium,—*Afeem,* Hind. Dec. *Afiun,* Hind. Pers. *Abinie,* Tam. *Afeeoon,* Arab., Malaya.

Habitat. Asia and Egypt. Cultivated in Egypt, Asia Minor, British India, and China.

Remarks. The "black poppy" and opium were known to the ancients, and the celebrated φάρμακον νήπενθες of Homer was probably some preparation of opium. The Museum is unusually fortunate in its representation of opium. Every instrument used in the cultivation of the poppy and the manufacture of the extract in Central India and Hindoostan; all the applications of the plant, and each stage of the drug, and every commercial variety, has been supplied by Government. In addition I have received an undescribed variety from Colonel Taylor, the Resident at Zanzibar, who obtained it while travelling through Persia at Yezd. It is in a stick like sealing-wax, liver coloured, and very hard. Samples of China and Punjab opium were also supplied, but the former turned bad, whilst the latter has been expended in analysis. One of the most interesting objects in the collection is the ornamented apparatus used by the Rajpoots in preparing and drinking *Kussumba,* a watery solution of opium. There is also a complete opium smoking service from China, with Chinese pictures illustrating the practice. In Bombay opium is generally taken in the form of small pills, but in Hindoostan it is employed in a number of forms, as sweetmeats, conserves, drinks, but never smoked as in China, unless the practice has been communicated to the people by Chinese immigrants as in Bombay, where *chandoo* or the "smokeable extract" is quite familiar. *Manilla Cheeroots* contain opium. *Kokemar* is a decoction of poppy-heads used in Persia. *Poppy* and *Papaver* are said to be from "pap," because given with their food to quiet children!

Peganum Harmala, W., *Syrian Rue,* N. O. 63 (See "Drugs"); *Murucuia ocellata, Bull-hoof* or *Dutchman's Laudanum* of Jamaica, Passifloraceæ; and *Lactucarium,* the extract of *Lactuca sativa, Garden Lettuce,* and *L. virosa, Strong-scented Lettuce,* N. O. 120 (See "Drugs"), have been recommended as substitutes for opium. The following plants also are used similarly to opium in different countries:—

N. O. 46. ERYTHROXYLACEÆ. *Erythroxylon Coca,* the leaf of which is the *Coca* of the Bolivia and Peru.

✓ N. O. 68. CELASTRACEÆ. *Catha edulis,* the leaf of which is the *Khat* of the Arabs and Ethiopians (*v. infra*).

N. O. 74. LEGUMINOSÆ. *Acacia Catechu*, the extract of the wood of which is *Catechu*, chewed throughout the East (*v. infra*). *Canavalia virosa*, the bean of which is commonly used as a narcotic in the Concans (*v. infra*).

N. O. 113. LORANTHACEÆ. *Loranthus falcatus*, the bark of which is used in Canara as a substitute for Betel-nut.

N. O. 115. CINCHONACEÆ. *Vanguieria spinosa*, the fruit of which is swallowed when rotten by the people of the ghâts, for the sake of the narcotic effect produced.

N. O. 134. AQUIFOLIACEÆ. *Ilex vomitoria*, the decoction of the leaf of which is the "black drink of the Seminoles."

N. O. 158. ATROPACEÆ. *Datura Hummatu*, var. *fastuosa*, and *D. Metel*, the seeds and leaves of which are the Datura of Asia (*v. infra*); *D. Stramonium*, the seed and leaf of which is the Stramonium of Europe; and *D. sanguinea*, from the fruit of which the *Tonga* drink of the natives of the Andes is prepared. *Nicotiana Tabacum*, and other species of *Nicotiana*, the leaves of which constitute the different kinds of Tobacco (*v. infra*).

N. O. 199. URTICACEÆ. *Canabis sativa*, which herb and its resin are used throughout Africa, and parts of Asia (*v. infra*).

N. O. 207. PIPERACEÆ. *Chavica Betle*, the leaf of which is the *Pan* of South Asia (*v. infra*); *Macropiper methysticum*, the rhizome of which is used in the preparation, by simply chewing, of the *Ava* of the South Seas.

N. O. 251. PALMÆ. *Areca Catechu*, the kernel of which yields one kind of Catechu (*v. infra*).

N. O. 32. BYTTNERIACEÆ. *BYTTNERIADS.*

Theobroma Cacao. *W. Smooth-leaved Chocolate Nut.*

Linn. Syst. Polyadelphia Decandria.

The kernel, burnt, pounded, and made into a paste with sugar, and vanilla, or cinnamon,—Chocolate; and the seed coat, or Nibs with portions of the kernel,—Cocoa, or Miserable.

Vernacular. ?

Habitat. Mexico, Caraccas, Demerara. Cultivated in Bourbon and Mauritius.

Remarks. Thrives well in Bombay. An intoxicating liquor is prepared also from the pulp of the fruit. There are two other species, *T. guianensis*, W. and *T. bicolor*? In Brazil the seed of *Paullinia sorbilis*, Sapindaceæ, is subtituted for Cocoa; and that of *Arachis hypogæa*, Leguminosæ, and the root of *Cyperus esculentus*, Cyperaceæ, are also good *succedanea*.

N. O. 33. TILIACEÆ. *LINDENBLOOMS.*

Grewia asiatica. *W. Asiatic Grewia.*

Linn. Syst. Polyandria Monogynia.

The fermented juice of the fruit.

Vernacular. *Phulsha*, Beng. Hind. Dec. Tam. *Dawaniya*, Cey.

Remarks. See *Vitis vinifera*, N. O. 53.

N. O. 36. TERNSTROMIACEÆ. *THEADS.*

Thea chinensis. *Sims, Bot. Mag. fig.* 998.
var. *α* **Bohea,** *Linn. sp.* 743.
var. *β* **Viridis,** *Linn. sp.* 735.

Linn. Syst. Monadelphia Polyandria.

The prepared leaf, chiefly of either *T. Bohea*, or *T. viridiis*, indifferently,—Black Teas, and Green Teas.

Vernacular. *Char*, By.

Habitat. China, Japan. The variety *T. Bohea* is cultivated about Canton, and *T. viridis* about Hwuychow. A variety, *T. assamica ?* is also cultivated in Assam.

Remarks. Tea is first mentioned (except by the Chinese) in an Arabian itinerary of the ninth century. All the cultivated Teas are now considered to be mere varieties of *T. chinensis.* Neither of these yield exclusively either Black or Green Teas, but both *T. Bohea* and *T. viridis* yield both Black and Green according to the treatment of their leaves. *T. viridis* cultivated about Hwuychow yields the best Black and Green Teas, and *T. Bohea* about Canton, the inferior kinds. The principal kinds of Black Tea are Bohea, Pekoe, Souchong, Campoi, Congou, and Caper: and of Green, Imperial, Twankay, Hyson-skin, and Gunpowder. True Imperial—"Flos-theæ"—is rarely seen in Europe, an inferior kind scented with the blossoms of *Olea fragrans* being substituted. The Chinese perfume their teas with various odoriferous plants and name them accordingly, as the rose, plum, *Jasminum Sambac, Aglaia odorata*, orange, *Gardenia florida, Cloranthus inconspicuus, Murraya exotica, Vitex spicata, Camellia Sasanqua, Camellia odorifera, Illicium anisatum, Magnolia Yulan ;* and with turmeric, orris-root, and oil of arnotto. Some of the inferior descriptions of teas are adulterated with Prussian-blue, gypsum, &c. to improve their appearance. *Lie-tea* consists of the sweepings of the tea warehouses cemented together with rice-water and rolled into grains. *Brick-tea* is essentially *Lie-tea* damped with bullock's blood and pressed into a mould. An infusion of it is beef tea and tea at once. The Chinese also prepare lozenges with the extract of tea leaf which are exceeding refreshing. The narcotic effects of tea on man, seem to increase towards the equator. There are twelve varieties of Canton teas in the museum.

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The following plants are used as tea in different parts of the world:—

N. O. 25. TAMARICACEÆ. *Myricaria herbacea*, in Mongolia.

N. O. 26. FRANKENIACEÆ. *Beatsonia portulacifolia*, in St. Helena.

N. O. 33. TILIACEÆ. *Corchorus monpoxensis*, in Panama.

N. O. 36. TERNSTROMIACEÆ. *Freziera thæoides*, in Panama.

N. O. 48. SAPINDACEÆ. *Paullinia sorbilis*, the *Guarana* of the natives of the Rio Mauhe.

N. O. 63. RUTACEÆ. *Correa alba*, in Australia.

N. O. 68. CELASTRACEÆ. *Catha edulis*, the *Khat* of the Arabs and Ethiopians.

N. O. 70. RHAMNACEÆ. *Ceanothus americanus*, "New Jersey Tea." *Sageretia theezans*, used by the poor of China.

N. O. 74. LEGUMINOSÆ. *Psoralea glandulosa*, used in Chili.

N. O. 76. ROSACEÆ. *Acæna Sanguisorba*, used in New Holland. *Cratægus Oxyacantha*, *Common Hawthorn*, or *Prunus spinosa*, one-third mixed with two-thirds of *Fragaria collina*, and *F. vesca*, forms the "Sloe and Strawberry Tea" of Northern Europe. The leaves of *Cerasusavium* are also used.

N. O. 78. LYTHRACEÆ. *Epilobium angustifolium*, used in England as an adulteration.

N. O. 85. MYRTACEÆ. *Glaphyria nitida*, "Tree of Long Life" of Bencoolen. *Leptospermum scoparium*, and *L. Thea* used in New Holland and Tasmania. *Melaleuca scoparia*, and *M. genistifolia*, used in New Holland and Tasmania. *Myrtus Ugni*, in Chili.

N. O. 105. SAXIFRAGACEÆ. *Saxifraga crassifolia ?*

N. O. 106. HYDRANGEACEÆ. *Hydrangea thuribergii*, *Amatsja*, or "Tea of Heaven," of Japan. *Platycrater arguta.*

N. O. 114. CAPRIFOLIACEÆ. *Viburnum cassinoides*, "Appalachian Tea."

N. O. 115. CINCHONACEÆ. *Coffea arabica*, leaves (*v. infra*).

N. O. 120. COMPOSITÆ. *Helichrysum nudifolium*, "Caffer Tea;" *H. serpyllifolium*, and *H. auriculatum*, "Hottentots' Tea;" and *H. imbricatum*, *Dinnen-thee*, of the Cape of Good Hope. *Printzia aromatica* is also substituted for tea at the Cape. *Ptarmica nana*, *P. atrata*, and *P. moschata*, in the Swiss Alps.

N. O. 126. STYRACEÆ. *Alstonia theæformis*, "Santa Fé Tea."

N. O. 129. ERICACEÆ. *Gualtheria procumbens*, "Mountain Tea" of North America. *Ledum latifolium* and *L. palustre*, "Labrador" or "St. James's Tea."

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N. O. 134. AQUIFOLIACEÆ. *Ilex paraguariensis, Mate* or "Paraguay Tea." *Ilex Gongonha,* and *I. theezans, Gongonha* tea of Paraguay. *Prinos glaber,* used in North America.

N. O. 160. SCROPHULARIACEÆ. *Capraria bifolia,* used in Central America. *Veronica officinalis,* "Thé de l'Europe."

N. O. 161. LABIATÆ. *Micromeria Thea-sinensis,* used in France. *Monarda didyma,* and *M. purpurea,* "Oswego Tea." *Ocymum. album,* used in India. *Salvia officinalis,* "Sage Tea."

N. O. 162. VERBENACEÆ. *Lantana pseudo-Thea,* "Capitao da Matto of Brazil." *Stachytarpheta jamaicensis,* used in Austria, under the name of "Brazillian Tea."

N. O. 171. CHENOPODIACEÆ. *Chenopodium ambrosioides,* used in Mexico and Columbia.

N. O. 179. ANTHEROSPERMACEÆ. *Antherosperma moschata,* used in Australia.

N. O. 190. SANTALACEÆ. *Osyris nepalensis,* used in Nepaul.

N. O. 195. EUPHORBIACEÆ. *Croton Eleuteria,* and perhaps also *Croton Cascarilla,* are used in Hayti.

N. O. 199. URTICACEÆ. *Missiessya corymbosa* is used as a substitute for Tea by the European settlers in Fiji.

N. O. 230. ORCHIDACEÆ. *Angræcum fragrans, Faham* of Mauritius and Bourbon.

N. O. 267. FILICES. *Aspidium fragrans.*

N. O. 53. VITACEÆ. *VINEWORTS.*

Vitis vinifera. *W.* *Common Grape.*

Linn. Syst. Pentandria Monogynia.

The fermented juice of the grape,—Wine.

Vernacular. *Draksha,* Sans. Beng. *Drakhyaluta,* Beng. *Dakh, Ungoor,* Hind. *Kodrimoondrie,* Tam. *Dracha,* Tel. *Muddrap, Oowus, Wæl-midi,* Çey. *Kerm* (the bine), *Inub* (the grape), *Umaseen* (must), *Zebeeb, Meweez* (raisins), Arab. *Ungoor,* Pers. *Booaangoor,* Malaya. Wi[illegible]e,—*Khumr,* Arab.

Habitat. Persia. Cultivated throughout the old world from India to the 51° north.

Remarks. See "Fruits and Vegetables." Grape juice, or *must* in the air, at a temperature between 60° and 80° Fahr., ferments, and this fermety, drawn off its sediment, *racked, sulphured,* and *fined,* is *wine.* Persia is undoubtedly the native country of the Vine, and on the ground of the story of Noah, we may conclude that wine was first made in the neighbourhood of Armenia. The Persian tradition is, that wine was discovered by the renowned Jamshid. "He was immoderately fond of grapes, and desired to preserve some, which were placed in a large vessel and lodged in a vault for future use. When the vessel was opened, the grapes had fermented; their juice in this state was so acid, that the king believed it must be poisonous. He had some vessels filled with it, and poison written upon each,—these were placed in his room." Here, however, we must confess Jamshid's share in the discovery ends; for again, it was a woman who first tasted the "forbidden fruit." "It happened that one of his favourite ladies was affected with nervous headaches: the pain distracted her so that she desired death; observing a vessel with poison written on it, she took it and swallowed its contents. The wine, for such it had become, overpowered the lady, who fell down into a sound sleep and awoke much refreshed. Delighted with the remedy, she repeated the doses so often, that the monarch's poison was all drank. He soon discovered this, and forced the lady to confess what she had done. A quantity of wine was made; and Jamshid and all his court drank of the new beverage which, from the circumstance that led to its discovery, is to this day known in Persia by the name of *Zeher-i-Koosh*, or the delightful poison." The Greeks attributed the discovery of wine to Dionysos, and Bochart would identify him with the founder of Babylon. The Greeks and Roman recognised about one hundred kinds of wine. The vineyards of France, Spain, Hungary, Sicily, Naples, the Cape of Good Hope, Portugal, Australia, and the Canaries, now produce more than a thousand varieties, the poorest of which probably as far excels the Falernian of Horace, as it is excelled by the best wines of the Côte d'Or, Zemplin, and the Haut Rhin. It is impossible in this catalogue to enumerate the ancient and modern wines; but the following list of plants other than the Vine-yielding vinous liquors, or ardent spirits, in various parts of the world, is inserted to prove how in every clime, and from every order of plants, nature provides alcoholic stimulants "to make glad the heart of man."

N. O. 4. MENISPERMACEÆ. *Cocculus Cebatha*, used in Arabia in the preparation of *Kumr-ool-majnoon*. *Cissampelos obtecta*, used in Gurhwal.

N. O. 33. TILIACEÆ. *Aristotelia Maqui*, in Chili. *Grewia asiatica*, in India (*v. supra*). *Grewia flava*, "Brandy Bush" of the Cape of Good Hope.

N. O. 40. GUTTIFERÆ. *Mammea americana*, in South America to prepare *Eau de Creole*.

N. O. 48. SAPINDACEÆ. *Paulinia Cupana*, the Oronoco.

N. O. 65. OCHNACEÆ. *Coriaria myrtifolia*, in Fiji.

N. O. 70. RHAMNACEÆ. *Zizyphus Lotus*, about Tripoli. *Z. orthacanthus*, in Gambia.

N. O. 71. Anacardiaceæ. *Anacandium occidentale* (*v. infra*), and *Mangifera indica*, in India.

N. O. 74. Leguminosæ. *Acacia leucophlœa*, and *A. ferruginea*, in India. *Prosopis Algaroba*, in South America in the preparation of *Chica*. For the Dye, *Chica*, see "Dyes" N. O. 44.

N. O. 76. Rosaceæ. *Pyrus Malus*, and *P. communis* in England, the first for Cider, and the second for Perry. *Spiræa kamtschatica*, used in Kamtschatka. *Cerasus avium*, the Gean of Scotland, is used in the Vosges in the preparation of Kirschenwasser. The pipesticks of Turkey are made of the branches of this tree.

N. O. 85. Myrtaceæ. *Eucalyptus gunnii* of Tasmania affords an abundant sap, which ferments into a beer-like liquor.

N. O. 103. Grossulariaceæ. *Ribes Grossularia*, used in Europe under the name Champagne.

N. O. 110. Umbelliferæ. *Lichtensteinia pyrethrifolia*, from the roots of which the Hottentots prepare an intoxicating drink.

N. O. 114. Caprifoliaceæ. *Sambucus niger*, yields Elderberry Wine of Europe.

N. O. 128. Vaccinaceæ. *Thibaudia macrophylla*, yields the wine of the people of Pasta. *Vaccinium uliginosum*, also yields a narcotic liquor on fermentation.

N. O. 131. Ericaceæ. *Arbutus Unedo*, in Corsica.

N. O. 135. Sapotaceæ. *Bassia latifolia*, yield the *Mawhra* of India (*v. infra*).

N. O. 140. Asclepiadaceæ. *Calotropis gigantea*, yields the *Bar* of the Western Ghâts, and the "*Giya*" of the Africans (Barth) (*v. infra*). *Sarcostemma brevistigma*, yields the *Soma* of the Vedas (*v. infra*).

N. O. 151. Convolvulaceæ. *Batatas edulis*, yields the Vintro da Batatas of Brazil.

N. O. 157. Solanaceæ. *Solanum tuberosum*, used in Europe in the preparation of Brandies.

N. O. 194. Empetraceæ. *Empetrum nigrum*, *Cowberry*, from which the Greenlanders prepare a fermented drink.

N. O. 195. Euphorbiaceæ. *Manihot utilissima*, used in the preparation of the *Piworree*, or *Ouycon* of Guyana, *Masato* of Mexico, and *Aipy* and *Kaviaraku* of Brazil. *Piworree* is prepared similarly to Maize, and Algaroba (i. e. *Prosopis Algaroba*) *Chica*, and *Ava*. A portion is chewed, spat into a bowl, mixed with water, allowed to ferment, and drunk.

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N. O. 199. Urticaceæ. *Ficus Carica,* yields the *Mahayah* of Morocco.

N. O. 207. Piperaceæ. *Macropiper methysticum,* used in preparing the *Ava* of the South Seas.

N. O. 211. Betulaceæ. *Betula alba,* and *B. glutinosa,* afford the "Birch wine" of Norway.

N. O. 220. Coniferæ. *Abies canadensis,* and *A. nigra,* used in the preparation of "*Spruce beer.*" Species of fir are also used in the preparation of the *Mum* of Brunswick.

N. O. 221. Taxaceæ. *Dacrydium taxifolium, Kakaterro* of New Zealand, where a beverage is prepared from the twigs resembling Spruce beer.

N. O. 222. Gnetaceæ. *Gnetum urens* yields in abundance a clear sap like the *toddy* of Palm trees.

N. O. 225. Smilaceæ. *Smilax pseudo-China* from the tubers of which the negroes of Carolina prepare a kind of beer.

N. O. 242. Liliaceæ. *Agave americana,* yields the *Pulque, Octli,* or Agava wine of Mexico. *Dracæna terminalis* (*Cordyline Ti*), yields the *Ywera* of the Sandwich Isles.

N. O. 251. Palmæ. *Borassus flabelliformis ; Caryota urens ; Cocos butyracea,* New Granada, and Venezuela ; *Cocos nucifera,* East Indies ; *Elæis guineensis,* Africa and tropical America ; *Mauritia vinifera,* Brazil ; *Nipa fructicans,* Eastern Archipelago ; *Phœnix dactylifera,* and *P. sylvestris ; Raphia vinifera,* West Coast of Africa ; *Arenga saccharifer,* Eastern Archipelago ; *Ænocarpus Bacaba, Æ. Batava,* and *Æ. disticha* of the Amazons ; from which the various *Palm wines* and *Spirits* of the tropics are prepared, among which may be named the *Arrak* of Goa, *Milaffo* of Congo, *Cha* of China, *Tari, Sinday,* and *Toddy* of India, *Saura* of Nicobar, *Tuba* of Manilla, and *Sagwire* of Celebes.

N. O. 266. Graminaceæ. *Avena sativa,* used in the preparation of the *Braga* of Russia, *Schara* of the Calmucks, and other malt liquors, and corn spirits. *Eleusine coracana,* used in the preparation of the *Boyah* of the Deccan (Ainslie), and *Murwa* of Nepaul. *Hordeum* sps., used in Europe in the preparation of *Ale, Beer,* and *Porter.* *Zea Mays* in the preparation of one of the South American kinds of *Chica.* *Poa abyssinica,* the *Teff* of Abyssinia, similarly used in that country. *Oryza sativa,* yields the *Arrak* of Batavia, *Mandrin* of China, *Phaur* of Nepaul, *Lan* of Siam and Burmah, *Kiji, Tanpo,* and *Sichew* of Java, *Paniz* of Corea, and *Sacki* of Japan. *Saccharum officinarum,* used in the preparation of *Rum* and *Tafia* in the West-Indies ; the *Basi* of the Philippines, and *Guarapo* Wine. *Secale cereale,* used in the preparation of the *Toster* of Germany, *Snaps* of Denmark, and *Quass* and *Kisslyschtxhy* of Russia, and of other malt liquors and corn spirits. *Sorghum vulgare,* used in the preparation of the *Pombie* of the Caffres, *Zythum* of Syria, and probably the *Murwa* or *Bowza* of the Crim Tartars, *Carmi* and *Bwzah* of Egypt, *Pitto* of Dahomey, *Merissa* of Upper Nile, *Gualo* of Congo, and other *Millet beers.* *Triticum* sps., used in the preparation of *Geneva, Gin, Whiskey, Eau de vie de Dantzick, Tarasun* of China, *Phaur* of Nepaul, *Awamuri* of Nepaul, and other corn spirits.

N. O. 274. FUNGI. *Amanita muscaria,* produces the *Muchumor* of Kamtschatka.

An *Ardent Spirit* is obtained by the distillation of a *Vinous Liquid.* When distilled from *Grape Wine,* the spirit is a *Brandy;* when from a *Malt Liquor,* a *Corn Spirit;* when from *Toddy,* or *Palm Wine,* an *Arrack* (a term unfortunately, also, applied by the Dutch to the spirit distilled from an infusion or *Wash* of Rice); and when from fermented *Molasses* or *Treacle,* a *Rum.* *Liqueurs* are alcoholic liquors variously flavoured and sweetened. Alcoholic liquors are also prepared from animal substance, as the black ant in Sweden; cow's milk and mare's milk in Tartary; sheep's milk in Afghanistan; lamb's flesh in China; and honey in England, where *Mead* was the only strong drink known for centuries. Surely it is not possible for any candid mind to resist the conviction, in the face of the facts brought together here and throughout this class, that on the whole narcotic stimulants must be useful to man. However they may differ in other respects, all the tribes of mankind agree in their craving for these stimulants; and there is no region of the globe, however barren otherwise, which does not afford one, and that often peculiar to it, to its inhabitants. There is scarcely a natural order of plants which does not afford one. We can appreciate the divine bounty in the wide distribution of pulse plants and grasses by which food is everywhere provided for man and cattle; and are we to make no consideration of the presence of narcotic stimulants in all orders of plants and in all climates of the globe? How suggestive is the ingenuity of man in finding out narcotics. The tribes of the Western Ghâts make an intoxicating drink called *Barr* from the milk-sap of the *Mudar* or *Ak* (N. O. 140 above), the plant from which, according to the local tradition of *Oomercote,* the great Akbar took his name. It has a repulsive and most unlikely look, and its mild sap actually blisters the skin; and yet from this plant the pagan tribes of Central Africa also, according to Barth, prepare their *Giya.* In Kamschatka we have seen (under N. O. 6, above) that the people contrive their strong drink by turning the divine body of man into a distillery. Still more suggestive of a law of nature is it when we find extraordinary recipes for making narcotic stimulants followed by different races who are completely isolated from each other. Thus the *Ava* of the South Sea Islanders is made by chewing a kind of pepper plant (N. O. 207 above) and spitting the chewed pulp into a basin of water and setting it by to ferment. Surely this process must be as isolated as it is ingenious and disgusting, and yet the *Piworee* of Guiana is made in the

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same way from Cassava (N. O. 195 above), and the *Chica* of South America both from the Algaroba Bean (of America) and Maize (N. Os. 74 and 266 above). To the Christian doubtful of the lawfulness of the use of narcotic stimulants, I would suggest the study of St. John's narrative of the marriage in Cana. This marriage was the occasion of the miracle by which water was made wine. It has been said that this miracle is without a moral end. But it was worked in the presence of the disciples of the Baptist, and its end would appear to have been to rebuke their asceticism, and to enforce by an authority which they could not doubt, that not the mortification of self, any more than licence, but free enjoyment was the Christian rule of life. In this Christianity only more plainly enforces the less certain teaching of nature. The vegetable creation gives man not only pulse and grass grains, but fruits of every taste; and flowers of every colour, shape and smell. They supply no necessity, and seem to be intended only for our pleasure. And similarly while the universal craving of man for narcotics, and the ingenuity which he has shown in finding them out, suggests their necessity to him, the greater number of them are so plainly put in his way that they also would seem to be intended only for his pleasure. The *Aloo* (*Vanguieria edulis*—N. O. 115 *supra*) stretches its leafy branches across the roads which lead over the Western Ghâts, and the weary workmen on the Bhore Ghât railway, and the palanquin bearers of Matharan in passing beneath it, pluck the ripe, hanging fruit, and throwing a few morsels of it down their throats go on their way refreshed and singing.*

On the southern slopes of the ethereal Caucasus, by the cradle of the human race, God planted the vine. And before yet history commenced it spread with man, his faithful servitor, into all the dry and serene countries of the azure Mediterranean, the region of odoriferous Labiates and Umbelliferæ, the land of the almond and fig, cypress and pomegranate,

> Where the pale citrons grow,
> The golden fruits in darker foliage glow,
> Soft blows the wind that breathes from that blue sky,
> Still stands the laurel and the myrtle high.
> Knows't thou it well that land?

The vine runs over every tree, its clusters thickly hanging, and touched by the rays of autumn in every stage of ripeness: its classic leaves, and thyrsus of regal fruit, purple, golden, and translucent green, the inspiration and despair of the poet, in language, colours, or marble; and mixed with the foliage of the linden, black poplar, maple, elm, and ash, delighting the eye of the most simple with a rich variety of beauty. To the poor its cooling and nutritious fruit, drying into the homely and useful

* The *Bombay Guardian* will of course say that this is the tree of whose fruit Christiana's boys eat to their hurt; but I must set up my office as Interpreter of the Garden against him, even if it put it into his head to cast at me the popular calumnies against him

> "———— who in the Garden vainly taught
> Pure pleasure as man's truest mark and end."

raisin, would be a common article of food; to the rich and refined a luxury of taste and sight, no mere servitor of duty, but minister of life's beauty and gladness. The poor man would train it over his humble cottage; and for its graceful form and the purple glory of its wholesome and delicious fruit, kings would use it in the sumptuous adornings of their proud palaces. And thus forced on the observation of man, not a bunch of its grapes could be laid aside by any accident in some cool shadow, or kept too long in a jar, but they must distill their thick luscious drops of wine, as the clouds of heaven drop fatness. Man could not keep from the discovery of wine. And in this sense the thought of the famous sentence from St. Augustine—"IPSE fecit vinum in nuptiis qui omni anno facit in vitibus," is as forcibly true as it is beautiful. They are equally the gifts of God to man,—"wine that maketh glad the heart of man, and oil to make his face to shine, and bread which strengthens man's heart." Nature herself leads us into the banqueting house, and under the banner of her loving hospitality bids us eat, drink, and be merry. If any weakly or perversely forget the sacrament in the feast—for the liberty of nature, or in the technical language of Christian theology the liberty of the Gospel, cannot be sinned against—the damnation is theirs only.

"Satan with apples Eve beguil'd,
But sin not apples her defil'd."

It is intemperance which is injury, folly, and sin, and not the using of narcotics; and perhaps there is such a thing as intemperance even in drinking water. So far indeed as exclusive addiction to water may prove injurious to mind or body, it is sinful in those who can afford to indulge in stronger drinks. Is not the slushy, sodden body of the water drunkard indeed saturated with combustible elements enough to set the Thames on fire, oxygen and hydrogen in the combination of water? Is not the degeneracy of the Spaniards, Italians, Hindoos, and Portuguese due to their water drinking? And on the other hand, would the Reformation have come to England but with beer? Would the Turks from a wandering people have become a fixed nation, and so long withstood the force of Christendom but for tobacco? And are not the Scotch the most evangelical because the most drunken people in the world?

Pascal, who would not look upon a beautiful landscape, carried the rule of voluntary humility and neglecting of the body to a logical extreme, and its extremity is suicide. Truer to nature the faithful in mediæval times found in every striking object of the material world suggestions of the spiritual life. Hence such popular names of the homely flowers of England as Herb Grace, Herb Bennett *(benedicta)*, Herb Trinity (Heartsease), Alleluia, *(Oxalis Aceticella)*, Archangel (and in old herbals, Gratia Dei, Oculus Christi (Clary). Hence (Our) Lady's Comb, changed by the Puritans to Venus's Comb, St. Barbara's Cross (*Barbarea vulgaris*), St. John's Wort, (Our) Lady's Tresses, and by a misunderstanding of their older names Cost Mary and Mary Gold. Thus even associating the fleeting flowers of field, the type of this transitory world, with the beatitude of the saints in heaven, and the eternal glories of Mary as the Church, the glorified Bride, the mystical Spouse of the Canticles.

> Seraph of Heaven! too gentle to be human,
> Veiling beneath that radiant form of woman
> All that is insupportable in thee
> Of light, and love, and immortality!
> Sweet Benediction in the eternal curse!
> Veil'd Glory of this lampless Universe!
> Thou Moon beyond the clouds! Thou living Form
> Among the Dead! Thou Star above the storm!
> Thou Wonder, and thou Beauty, and thou Terrour!
> Thou Harmony of Nature's art! Thou Mirrour
> In whom, as in the splendour of the Sun,
> All shapes look glorious that thou gazest on!

In fine all persons do not need narcotics, nor any at all times, and their habitual use, in even the smallest measure, may often be injurious; but it is impossible fairly to avoid the conclusion that they are necessary and good for man, or that their use has the highest sanction of religion. Experience would seem to suggest that they are not needed under the age of twenty-five, and not even tea should be allowed under the age of twelve. After twenty-five they may be habitually taken in moderation without injury by most men; and after forty-five they are probably absolutely required for the preservation of health. Tea, it should be remembered, increases in narcotic power towards the equator, and affects women more than men. Its intoxication takes the form of "talking scandal," and it is a custom of the women of the western world, of the sort called "elderly spinsters," to hold regular tea orgies—a relic it may be supposed of the witches' Sabbat—to indulge over their "tea cups" in this curious and gentle drunkenness of "talking scandal." These "tea-cups" are not yet much known in India beyond European circles, but when once fairly introduced will undoubtedly exercise a supreme fascination over the mild Hindoo. As for water, truly it is good as Pindar sings; and loyal subjects in Bombay can drink nothing better than Vehar water, except just before a meal. That is all that can be said against it, although teetotalism is folly,—a folly it is scarcely necessary to be severe on.

Opium however, and by consequence the opium revenue of India, are reprobated even by those who do not object to other narcotics. But the use of opium is a question of geography and race, and not of morality. Its effects on the Chinese are similar to those of sound ale on Englishmen, the good done is the same, and the natural reaction, which is common also to the excitement of balls, dinner parties, tea orgies ("tea meetings," *Anglice*; "cookie shines," *Scotice*), need be no worse. Indeed, throughout the East opium is habitually used by persons who are condemned to a laborious life as the only means for keeping up their exertions. It is habitually used throughout the East also as a luxury. But in neither case does any harm follow, except when cleanliness, food, and exercise are neglected. Dr. Burnes found that the natives of Cutch do not suffer from habitual opium eating; Dr. Impey the same of the people of Malwa;

Dr. Eatwell of those of Hindoostan; and Mr. Smith of those of Paulo Penang. The Chinese, except in the case of opium drunkards, who are but an infinitesimal fraction of the population, are notoriously a robust, healthy race. But even when taken in excess, is the dreamy calm of opium worse than the violence of alcoholic drunkenness, its prostration than *delirium tremens*, that it should be singled out as the one narcotic man never should enjoy? As for opium smoking, its evils must result from the general debauchery of its so-called victims: for the heat required to smoke opium decomposes it, and none of its active principles are volatilizable. Dr. Christison and his pupils tried the process on several occasions with a Chinese pipe and the Chinese extract, "but experienced no other effects than severe headache and sickness." Now against all this we have only missionaries' tales. But the individual cases held up by them *in terrorem* weigh but little in a dispassionate discussion of the question. They are very good pious frauds, in as much as piety infinitely outweighs the fraud. They are instances very properly exaggerated of *roués* who have given up every thing in life for the one passion for opium. But do we not observe similar effects in Europe in men who give themselves up to excess in wine and ardent spirits, and should we not observe the same effects in water drunkards but that water costs nothing? Were it as costly as opium and wine, should we not observe the deluded teetotaller selling the coat off his back for the sake of the beverage which he loves not wisely but too well? The man of philosophic moderation condemns alike the intemperance of the teetotaller and the opium-eater, and sees in both alike the effects of their sad debauchery!—although there are less of the theatrical properties of woe about the former. But who does not know the pale, shrunk, care-worn face of the water-logged victim of teetotalism. The sober truth is that opium differs from wine in having a greater fascination over those who take it. There is greater risk therefore of their neglecting their business, food, exercise, and cleanliness for it. But this does not make the use of wine moral and that of opium immoral. It is a mere question of geography and race, and if Providence places a man in an opium country, and from over-exertion, depression, disease, and old age he needs a stimulant, he must exercise his moderation with greater circumspection than if he were born in a wine country, and especially if he is not a Chinaman.

And, finally, with respect to the opium revenue of India, even if opium were the vilest poison known, this impost would be perfectly justifiable and wise. If in that case the Chinese still made the demand, India would still supply it, whether Government made opium free or taxed it, or even forbade its manufacture. And being a luxury of the rich, and used by the poor only in such minute doses that the heaviest tax on it could not be prohibitive, it is just one of those articles from which Government is not only justified but bound to derive the largest possible revenue. And is it not plain as a pikestaff to the dullest understanding, that it is wiser to tax a luxury of the Chinese than to place an *octroi* on the commonest necessities of the scurvy-stricken poor of Bombay—wood, rice, ghee, and dall—and

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which in its degree is injurious alike to the health and moral well-being of the entire population of this over-crowded and putrid city. But there are many ways of doing the same thing, and no one could possibly object to Government substituting a heavy export duty on all Indian opium in place of their monopoly of its production in the agencies of Benares and Behar. It is better after all to be with the good, notwithstanding all their ignorances and prejudices, than with those whose superiority is only in knowledge, and the false liberality which comes of the absence of all principle and convictions.

Having been somewhat severely castigated for the views expressed under this class in my first edition, I conclude with the following story for the benefit of my critic :—

"The ancients maintained it was the ass that by browsing on its saucy branches only made it more luxuriant, taught man the art of pruning the vine. To make known their gratitude for this piece of instruction they erected at Nauplia a marble statue in honour of this ill-used quadruped."

Now these things are an allegory :—The Ass was a critic. But whether my critic in the *Bombay Guardian* should be honoured with a statue for the luxuriant increase under his browsings of these narcotic leaves, I leave it to Mr. Chisholm Anstey first to say. I dare not a second time even approach the borders of such a proposal save by his grace !

N. O. 68. CELASTRACEÆ. *SPINDLE-TREE.*

Catha edulis. *Forskäl* ?

Linn. Syst. Pentandria Monogynia.

The leaf.

Vernacular. *Khāt*, Arab.

Habitat. Abyssinia, Yemen.

Remarks. The green or dry leaf is chewed, or the dry leaf is decocted. Doctor Vaughan informs us,—"Like Coffee, Khāt * * * has been a fertile theme for the exercise of Mahomedan casuistry, and names of renown are ranged on both sides of the question, as to whether the use of Khāt does, or does not, contravene the injunction of the Koran, '*Thou shalt not drink wine*, nor anything intoxicating ;'" and he further on states that, "a synod of learned Mussulmans is said to have decreed,—that as beverages of Khāt and Cafta do not impair the health, or impede the observance of religious duties, but only increase hilarity and good humour, it is lawful to use them, and also the drink made from the boonn or coffee berry." A wise judgment, and applicable to all intoxicants in moderation, for what is the difference between eating lettuces, or drinking tea, coffee, or Khāt, and drinking alcohol diluted to a strength which "cheers but not inebriates ?" *Cafta* above is the same as *Khāt*. This important economic plant flourishes luxuriantly in Bombay. Although described, it is not named in my edition of Forskäl. See "Opium" and "Tea."

N. O. 70. ANACARDIACEÆ. *ANACARDS, or TEREBINTHS.*

Anacardium occidentale. *W. Common Cashew.*

Linn. Syst. Enneandria Monogynia.

The succulent peduncle.

Vernacular. *Beejara-sala*, Sans. *Hijilee-badam*, Beng. *Cajoo*, Dec. *Peitiea manjo, Parunkimavah*, Mal. *Moondri*, Tam. *Jidi-* and *Munta-mamedi*, Tel. *Watu-caju*, Cey. *Cadju*, Malaya. *Jamboo-cerong*, Sumatra.

Habitat. America. Cultivated in Malabar, Trichinopoly, Coromandel, Chittagong.

Remarks. First described by Thevetius. A spirit is prepared from the peduncle by the Portuguese. The ripe peduncle itself has cerebral effects. The mango is also similarly employed.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Acacia leucophlæa. *Rox.*

Linn. Syst. Polygamia Monœcia.

The bark.

Vernacular. ?

Habitat. Southern Mahratta Country: Coromandel.

Remarks. "A spirit is distilled from the bark, and the trees are farmed on account of Government" (Dalzell). In Coromandel spirit is also prepared from the bark of *A. ferruginea ;* and Ainslie states that the bark of a species of *Phœnix* is also similarly used in India.

Canavalia virosa. *W. et A.*

Linn. Syst. Diadelphia Decandria.

The pod.

Vernacular. *Kudsumbar*, By.

Habitat. The Concans, in hedges.

Remarks. This is the parent of *C. gladiata*, De C. This is a common narcotic in the Concan. The pods are shred like French beans, boiled, and eaten, when intoxication follows. I have not met with an account of this plant in any book : nor with any but the humblest natives who are aware of its effects. See "Opium."

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Coffea arabica. *Linn.* *Arabian Coffee.*

Linn. Syst. Pentandria Monogynia.

The burnt seed,—Coffee; the pericarp, or shell, and the leaf,—Coffee Tea.

Vernacular. *Kawa*, Beng. *Boond*, *Caphee*, By. *Boonn* (the seed), *Qahoueh* (the decoction), Arab. *Cahwa*, Pers. *Eleave*, Egypt, *Cahvey*, Turk.

Habitat. Cáffa and Enarea in Abyssinia. Cultivated in Arabia from circa 1554. Cultivated in Malabar, Ceylon, the Caffre Coast, Mauritius, Java, West Indies, and Brazil.

Remarks. Coffee has been in use in Abyssinia immemorially. It was in use in Persia, A.D. 875, and from thence was gradually introduced into Syria, Egypt, Constantinople, and Arabia. We find it at Venice about 1615, at Marseilles 1644, London 1652, and Paris 1657. In 1688, Ray observes, London might rival Grand Cairo in the number of its coffee-houses. The Arabs roast the whole *fruit* of the coffee and not the seed only, and this they call *Sakka* or *Salabi*. In Bombay, I am told, some Arabs use only the pericarp of the fruit. The leaf is used widely in the Eastern Archipelago. Besides the *Coffea arabica*, other species have been formed, as *C. benghalensis*, *C. zanguebaria*, *C. mauritiana*, and others, but these can only be varieties of the original Abyssinian plant. Avicenna circa A.D. 1000, and after him Ranwolf describe "Arabian Coffee." The following plants are used as substitutes for Coffee in various countries of the world:—

N. O. 74. LEGUMINOSÆ. *Cicer arietinum*, *Common Chick Pea*, or *Gram*, the seed. *Inga biglobosa*, the seed being used in Soudan. *Parkia africana*, the seeds being used in Ethiopia.

N. O. 114. CAPRIFOLIACEÆ. *Triosteum perfoliatum*, the seeds being used in North America.

N. O. 115. CINCHONACEÆ. *Psychotria* sps., the seeds being used in the West Indies.

N. O. 116. GALIACEÆ. *Galium Aparine*, the roots being used in Ireland.

N. O. 120. COMPOSITÆ. *Cichorium Intybus*, the source of "Chicory." *Leontodon Taraxacum*, the roots being used like "Chicory" in Europe.

N. O. 158. ATROPACEÆ. *Hyoscyamus* sp., the seeds being used by the Tonguses.

N. O. 182. PROTEACEÆ. *Brabejum stellatum*, the husks of the seeds.

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N. O. 212. CORYLACEÆ. *Quercus* sp., the Acorn being used in Europe.

N. O. 236. IRIDACEÆ. *Iris pseud' Acorus,* the seeds of which have been experimentally used in England. The seeds of innumerable other plants have been tried, and even burnt bread. The seed of a plant called *Kenguel* in Turkey, was also shown at the Exhibition of 1851, as extensively used in the Kair-ar-eh, and Komah.

N. O. 135. SAPOTACEÆ. *SAPOTADS.*

Bassia latifolia. *W. Broad-leaved Bassia.*

Linn. Syst. Dodecandria Monogynia.

The flowers.

Vernacular. *Mudhooka, Madooka,* Sans. *Moula,* Beng. Hind. *Mahwa, Muhooa,* Beng. *Mourha,* By. *Poounum,* Mal. *Caatelloopei,* Tam. *Ipie,* Tel.

Habitat. East Indies.

Remarks. A spirit is distilled from the flowers.

N. O. 140. ASCLEPIADACEÆ.

Calotropis gigantea. *R. Brown. Curled-flowered Calotropis.*

Linn. Syst. Pentandria Digynia.

The milk sap.

Vernacular. *Arka, Akund, Svaytaurkum,* Sans. *Ak, Mudar,* Hind. *Rowee,* By. *Yecada,* Can. *Yercum, Vullerkoo,* Tam. *Neelajeeleeroo.* Tel. *Moodu-wara,* Cey. *Maioh,* Burmah. *Oshmar, Oschar,* Arab. *Bejd-el-oschar, Erminion?* (Kercher) Egypt. White var.—*Alarka,* Sans. *Shwet-akund* and *-urka,* Beng. *Tellajelladoo,* Tel. The sugar,—*Sukhur-ool-ashur,* Vulg. The spirit,—*Bar* By.

Habitat. India.

Remarks. See "Drugs." The intoxicating liquor *Bar* is prepared by the tribes of the Western Ghâts. It is the last plant in the world from which an intoxicating spirit might be expected, and yet Barth also states of the tribes of the Tagamah that they ferment their "*Giya*" with its milk-sap.

Sarcostemma brevistigma. *W. et A. Twisting Sarcostemma.*

The juice of the plant.

Vernacular. *Soma, Somaluta,* Sans. Beng. *Tiga-tshumoodoo, Pullatige,* Tel. *Muwa-keeriya.* Cey.

Habitat. Hills of Punjab, Bolan Pass, Rohilcund, Khandeish, Hills about Poona, Coromandel.

Remarks. The *Som* of the Vedas, and *Hom* of the Zend Avesta. Many passages might be quoted from the Vedas to show the superlative estimation in which Soma was held by the Brahmins of the olden time. I only give one, a finer Bacchic burst than I have met with amongst the most enthusiastic of the poets who sung of Wine. Rig Veda, ix.—"The purifying Soma like the sea rolling its waves, has poured forth songs, and hymns, and thoughts."

N. O. 158. ATROPACEÆ. *ATROPADS.*

Datura Hummatu *var.* **fastuosa**. *Bernh. Purple Thorn-apple.*

Datura Metel. *W. Downy Thorn-apple.*

Linn. Syst. Pentandria Monogynia.

The seed.

Vernacular. Black species,—*Doostoora, Krishna-dhattura,* Sans. *Kala-dhatura, Lal-dhatura,* Hind. Beng. *Umana, Neel-nummatu,* Mal. *Karoo-oomattay,* Tam. *Nulla-oomatie,* Tel. *Kaloo-attana, Antenna,* Cey. *Bunjdhestee,* Arab. *Goozgeeah,* Pers. *Rotecubung,* Malay. White species,—*Suda-dhatura,* Hind. Beng. *Hummatu,* Mal. *Yellay-oomattay,* Tam. *Tella-oomatie, Daturamu,* Tel. *Suda-attana,* Cey. Both in common,—*Dhatura,* India. *Jowzmazil* (Methel-seed), Arab.

Habitat. Egypt; Asia.

Remarks. See "Drugs." The seeds of these plants are used commonly in India on account of their intoxicating influence: and frequently criminally, as in Bombay are also the seeds of *Common Henbane* of the same order. Species of *Datura* as *S. Stramonium* and *D. sanguinea,* are used as intoxicants in Europe and America.

Nicotiana Tabacum. *Linn. Virginian Tobacco, Herbe à la Reine.*

Linn. Syst. Pentandria Monogynia.

The dried leaf,—Tobacco.

Vernacular. *Dhumrapatra, Tamra-koota,* Sans. *Tumak, Tambaca,* Beng. Hind. *Bujjirbhang,* Arab. Hind. *Poghei,* Tam. *Poghako,* Tel. *Doonkola,* Cyng. *Toombacco,* Malaya.

Habitat. America. Cultivated over the whole world, its range being wider perhaps than of any other economic plant, excepting the Potato.

Remarks. Tobacco was first seen of Europeans in 1492, by Columbus and his followers, as though this unrivalled herb which from its native seat in America spreading over the wide world, has in every country from the equator to the poles found a home, the consoler alike of savage and philosopher, and equally within the means of king and beggar, were in verity the secret force which drew the old world to the discovery of the new! It was afterwards described by Benzoni about 1556, and by Thevetius about 1558. Hernandez introduced it into Spain and Portugal, and from the latter country Joan Nicot sent a plant to Catherine de Medicis, whence the French name *Herbe à la Reine.* Tobacco leaf was brought to England by Ralph Lane in 1586, on the return of Sir Francis Drake with the Virginian colonists, and the practice of smoking having been adopted by Sir Walter Raleigh, and other courtiers, soon became common. Shortly after the seeds were introduced from the West Indies. Indulgence in Tobacco was prohibited by Popes, Sultans, Kings, Czars (or rather Grand Dukes of Moscow), and Shahs: a hundred books were written against it, amongst them the notorious *Counterblast to Tobacco;* the knout and death even were prescribed against smokers; but Tobacco was greater than all, and prevailed, and prevails unimpaired in influence when now the Popes and Sultans are all but names of history. Tobacco is probably from *Tabac,* the smoking instrument of the natives of America; possibly from *Tobago* in the West Indies, or *Tabasco* in New Spain. The Eastern synonymes, and the prevalence of smoking in the East, excite the suspicion that both the practice and the herb must be indigenous here, and some authorities have asserted this. We find, however, throughout Asia no species of *Nicotiana* but what are indigenous to America, although often found wild, a fact which need scarcely be weighed in the argument when we consider that two of the most widely spread, abundant, and pestilent plants in India—*Opuntia dillenii* and *Argemone mexicana*—are natives of America. It may be doubted, also, whether the so-called species of *Nicotiana* are not simply varieties of *N. Tabacum.* The use at least of Tobacco in Asia cannot well have been prior to the 17th century, or the Shahs and Sultans of that era would scarcely have protested against it in the tyrannical manner they did. Lane expressly states that Tobacco was introduced into Turkey and Egypt in the 17th century, and in 1601 it was carried to Java. "Smoking" of course, is known to have been immemorially practised in the old world, but here the "smoking" of Tobacco is alone meant. The following so called species of *Nicotiana* have been recognized, but perhaps the majority of them are only varieties of the first.

(1.) *N. Tabacum,* Linn., the source of *Virginian, Maryland, Kentucky, Carolina,* and *Bilsah Tobaccos.*

(2.) *N. latissima,* Miller, including *N. fruticosa,* Linn., and *N. chinensis,* Fisher, the source of large *Havanna Cigars.*

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(3.) *N. rustica*, Linn., indigenous to America, and found wild also in Europe, Asia, and Africa, the source of *Latakkia* (Laodicea), *Salonica* (Thessalonica), and *Turkey Tobaccos*.

(4.) *N. persica*, Lindl., the source of *Persian* or *Shiraz Tobacco*.

(5.) *N. repanda*, W., the source of small *Havanna* or *Queen's Cigars*.

(6.) *N. quadrivalvis*, Parsh., the source of *Missouri*? and *Ohio*? *Tobacco*.

(7.) *N. nana*, Lindl., a native of the Rocky Mountains.

(8.) *N. multivalvis*, Lindl., the source of the varieties of *Columbian Tobacco*, as *Columbian*, *Varina*? *Cumana*? Besides the Commercial kinds of the leaf already named, *Brazilian*, *Dutch* or *Amersfoot*, *Manilla*, *St. Domingo Tobaccos*, all from *N. Tabacum* probably, and *Orinoco* probably from *N. latissima* are met with. In India *N. Tabacum* is cultivated in the Deccan, and *N. rustica* to the northward. *N. persica* was introduced generally into the Bombay Presidency some years since by Colonel Barr.

TOBACCO prepared for Chewing or Smoking may be either *cut* as *Shag*, *Returns*, *Bird's-eye*, *Maryland*, *Kanaster*, *Orinoco*, *Turkey*, *Persian*, and *Varinas*: or *spun*, *rolled*, or *twist*, as *Pigtail*, *Negro-head*, *Cavendish*, *Irish-twist*, *Bogie*, *Alloa*: or made up into *Cigars* as *Havannas*, or *Cheroots* as *Manillas*,—a *cigar* being pointed at the extremities, a *cheroot* truncated.

SNUFFS are preparations of the leaf powdered and fermented, and may be either *dry*, as *Scotch*, *Irish*, *Welsh*, *Spanish*: or *moist*, as the *Simple Rapees*, *Brown*, *Black*, *Cuba*, *Carotte*, and *Bolangero*; *mixed Rapees*, as *Hardman's Genuine*, *No. 37*; and *Scented Rapees*, as *Prince's Mixture*, &c.

Tobacco is used over a wider area than any other narcotic, and probably in larger quantity than any other, excepting *Pan*, the leaf of *Chavica Betle*; and the popularity of both is probably owing to the gentle, continuous, and cheerful calm of mind which they are capable of sustaining. Tobacco *smoking* is of course alone here meant, and in moderation. Tobacco taken internally, acts very violently on the human system; and probably Tobacco chewing and snuffing are always dangerous. Accidents may have also attended Tobacco smoking, but taken with care and temperance it is certainly the most innocent, delightful, efficient, and cheapest of the indulgences of man. There is no chagrin, fret, or weariness, which a pipe or cigar cannot dissipate. Pereira (from whom most of the above information has been abstracted) indeed states,—"I am not acquainted with any well-ascertained ill effects resulting from the habitual practice of smoking." And Christison writes, "In many individuals, who use it (Tobacco) habitually, the smoke has an extraordinary power in removing exhaustion, listlessness, and restlessness,—especially when brought on by bodily or mental fatigue; and this property is the basis of its general use as an article of luxury. * *

Some imagine that the practice of smoking and snuffing is detrimental to health, but this supposition is doubtful." Nevertheless the opposite testimony of other great authorities must be considered conclusive of evil of excessive smoking. What excessive smoking may be, is however a very difficult question. I know an officer who for years spent £300* yearly on smoking, and when the first edition of this work was published, a healthier man in the prime of manhood was not to be seen. Says Burton, A.D. 1652, "Tobacco, divine, rare, super-excellent tobacco, which goes far beyond all the panaceas, potable gold, and philosophers' stones, is a sovereign remedy in all diseases. A good vomit, I confess, a virtuous herb, if it be well qualified, opportunely taken, and medicinally used; but as it is commonly abused by most men, which take it as tinkers do ale, 'tis a plague, a mischief, a violent purger of goods, lands, health, hellish, devilish, and damned tobacco,—the ruin and overthrow of body and soul." Josuah Sylvester finishes off his poem "Tobacco battered, and the Pipes shattered, by a volley of holy shot, thundered from Mount Helicon," with this *feu-de-joie, à l'enfer*:—

"And if ——— etcetera ———
——— etcetera ———
Were just: How juster will the Heav'nly GOD,
Th' *Eternal* punish with infernall Rod
In Hel's dark Fornace (with black *Fumes* to choak)
Those that on Earth will still *offend in Smoak*?
Offend their Friends with a most *un-Respect*:
Offend their Wives and Children, with Neglect:
Offend the Eyes, with foul and loathsom spawlings:
Offend the Nose, with filthy Fumes exhalings:
Offend the Ears with loud lewd *Execrations*:
Offend the Mouth with ugly Excreations:
Offend the *Sense*, with stupefying *Sense*:
Offend the Weake to follow their *Offence*:
Offend the Body, and offend the Minde:
Offend the *Conscience* in a fearful kinde:
Offend their *Baptisme*, and their *Second Birth*:
Offend the *Majesty* of Heav'n and Earth.
Woe to the world because of such *offences*;
So voluntaire, so voyd of all pretences
Of all *Excuse* (save *Fashion, Custom, Will*)
In so apparent, proved, granted, *Ill*.
Woe, woe to them by whom *Offences* come:
So scandolous to all our CHRISTENDOM."

The following old poem is known to the peasantry throughout the North of England as "Erskine's Song." But the second part only is by the Rev. Ralph Erskine. The first part is by an unknown author of the time of James the 1st, and is doubly satisfactory as proving that after all there was some Christian sentiment amongst Sylvester's contemporaries with regard to Tobacco, and that the writers on this heart-soothing herb were not all such time-servers as Master "Silvertongue,"—*âme damnée !*

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* This has been arithmetically demonstrated to be an impossibility. I can only say *tant pis* for the demonstration,—I believe the word of the man who told me the fact himself.

PART I.

This Indian weed, now withered quite
Tho' green at noon, cut down at night
Shows thy decay:
All flesh is hay,
Thus think and smoke tobacco.

The pipe so lily-like and weak,
Does thus thy mortal state bespeak
Thou art e'en such
Gone with a touch:
Thus think and smoke tobacco.

And when the smoke ascends on high,
Then thou behold's't the vanity
Of worldly stuff
Gone with a puff:
Thus think and smoke tobacco.

And when the pipe grows foul within
Think on thy soul defil'd with sin:
For then the fire
It doth require:
Thus think and smoke tobacco.

And seest the ashes cast away
Then to thyself thou mayest say,
That to the dust
Return thou must:
Thus think and smoke tobacco.

PART II.

Was this small plant for thee cut down?
So was the Plant of Great Renown,
Which Mercy sends
For nobler ends:
Thus think and smoke tobacco.

Does juice medicinal proceed
From such a naughty foreign weed?
Then what's the power
Of Jesse's flower:
Thus think and smoke tobacco.

The promise like the pipe inlays,
And by the mouth of faith conveys,
What virtue flows
From Sharon's Rose:
Thus think and smoke tobacco.

In vain the unlighted pipe you blow:
Your pains in outward means are so,
Till heavenly fire
Your heart inspire:
Thus think and smoke tobacco.

The smoke, like burning incense towers :
So should a praying heart of yours
With ardent cries
Surmount the skies :
Thus think and smoke tobacco.

FROM
The Smokers' Text Book,
BY
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At the Cape of Good Hope the Hottentots smoke the leaves of *Tarchonanthus camphoratus*, Linn. N. O. 120 ; and of *Leonotis Leonurus*, R. Br., and *L. ovata*, N. O. 161. Labiatæ. They chew also the leaves of *Mesembryanthemum emarcidum*, after bruising it and allowing it to ferment. N. O. 100. In South America the leaves of *Polygonum hispidum*, N. O. 176, are substituted for Tobacco. See Opium and Hemp.

N. O. 199. URTICACEÆ. *NETTLEWORTS.*

Cannabis sativa. *W.* *Common Hemp.*

Linn. Syst. Diœcia Pentandria.

The herb and resin.

Vernacular. *Bhanga, Gunjika, Vijya,* Sans. *Bhang,* Hind. *Ganjar,* Beng. *Ganja,* Dec. Tam. Malaya. *Tejeroocansjava,* Mal. *Ganjah,* Tel. *Matkansha,* Cey. *Kinnub,* Arab. *Bin,* Burmah. *Guijilacki-lacki,* Malaya. *Kinnabis, Defroonus,* Yonanee.

Habitat. Caucasus, Hindoo Koosh, Himalayas. Cultivated in Europe for its fibre, and in Africa and Asia for the sake of its narcotic properties.

Remarks. See "Drugs." The Herat *Churrus* or *Kirs* is esteemed the most. The dried flowers are used in Morocco under the name of *Kief.* The *Assassins,* or followers of "the Old Man of the Mountains" (whose descendant, according to Sir Charles Napier, is Aga Khan of Bombay !), are said to have derived their name from the use of *Hashish* or Hemp tops. "Running a muck" is derived from the effect of Opium on the Javanese, who become frantic under an extraordinary dose, and rush about with knives, shouting *Amok, Amok !*—kill, kill ! Burchell, Livingstone, Burton, and Du Chaillu testify to the wide use of Hemp as a narcotic in Africa. The Hop belongs to this order, for which *Menyanthes trifoliata,* N. O. 143. GENTIANACEÆ, and *Artemisia Abrotanum,* N. O. 120. COMPOSITÆ are sometimes substituted.

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N. O. 207. PIPERACEÆ. *PEPPERWORTS.*

Chavica Betel. *Miq. Betel Pepper.*

Chavica Siriboa. *Miq. Siriboa Pepper.*

Linn. Syst. Diandria Trigynia.

The leaves,—Pan.

Vernacular. *Tamboolee, Purna,* Sans. *Pan,* Beng. Dec. *Nagbel,* Hind. *Betalacodi,* Mal. *Vettilei,* Tam. *Tamalap,* Tel. *Bulatwæla,* Cyng. *Wurka-tunbole,* Arab. *Birgtum-bowl, Beykh-pan* (root), Pers. *Siri,* Java. *Basi,* Bali. *Chambai,* Lampung. *Buyo,* Philippines.

Habitat. East Indies.

Remarks. *Pan,* either Betel leaf or *Siri,* with Betel nut and lime, constitute the narcotic masticatory of the East, for brevity usually called "Betel," and which is perhaps consumed by the human family as largely as Tobacco. It is chewed, and the quid goes in Bombay by the name of *Pan-psoopari,*—and is sometimes the cover of a bribe. This leaf has been thought to be the Malabathrum of Dioscorides, but all references to that drug are unsatisfactory. It is certainly the *Tembul* of the Arabs.

N. O. 251. PALMÆ. *PALMS.*

Areca Catechu. *W. Medicinal Cabbage Tree.*

Linn. Syst. Monœcia Hexandria.

The kernel,—Betel nut; and the extract of the kernel,—Catechu (of one kind).

Vernacular. *Goovaka,* Sans. *Gowa, Oodbeg,* Beng. *Sooparee.* Hind. Beng. Dec. *Paak, Camooghoo,* Tam. *Poka, Oka,* Tel, *Pawak,* Cey. *Tofil,* Arab. *Kwoon-ben,* Burmah. *Pinang,* Malaya.

Habitat. East Indies.

Remarks. See "Drugs" and *Chavica Betel.* Paulo-Pinâng is "Areca Palm Island." The intoxicating effect of *Betel* when chewed is due probably to the mutual reaction of the Betel nut, Betel leaf, lime, and saliva. Often the extract is substituted for the Betel nut itself, as also the extract of the wood of *Acacia Catechu,* and of the leaf of *Uncaria Gambir.* On the Malabar coast an intoxicating lozenge is prepared from the sap of *Areca Catechu.*

Borassus flabelliformis. *W. Fan-leaved Borassus, Palmyra.*

Linn. Syst. Diœcia Hexandria.

The sap, fermented.

Vernacular. *Tala,* Sans. *Tal,* Hind. Beng. *Tarie,* Hind. *Tar,* Dec. *Ampana, Carimpana,* Mal. *Panang-kulloo,* Tam. *Putootoadi, Tatti-Kulloo,* Tel. *Tal-gaha,* Cey. *Lontar,* Malaya. *Tafi, Dom?* (Forskal) Arab.

Habitat. East Indies.

Caryota urens. *W. Torn-leaved Caryota.*

Linn. Syst. Monœcia Polyandria.

The sap, fermented.

Vernacular. *Bherlee Mahr,* By. *Kitul,* Cey.

Habitat. East Indies.

Remarks. Abounds in sap, but in this Presidency is found only on the Ghâts.

Cocos nucifera. *W. Common Cocoa-nut Tree.*

Linn. Syst. Monœcia Hexandria.

The sap, fermented.

Vernacular. *Narikela,* Sans. *Narikel,* Beng. *Narel,* Hind. *Tenga,* Mal. *Taynga,* Tam. *Tenkaia, Narikadam, Kobbari-chettu,* Tel. *Nur, Calapa,* Malaya. *Pol, Nawasi, Tæmbili,* Cey. *Jowz-hindee, Nardjil,* Arab. *Kalapa,* Java.

Habitat. East Indies? possibly Central America.

Phœnix sylvestris. *Rox. Wood Date Palm.*

Linn. Syst. Diœcia Triandria.

The sap, fermented.

Vernacular. *Khujjooree,* Sans. *Sendhi, Kajur,* Hind. *Eetchumpannay,* Tam. *Eeto,* Tel.

Habitat. East Indies.

N. O. 266. GRAMINEÆ. *GRASSES.*

Oryza sativa. *W. Common Rice.*

Linn. Syst. Hexandria Digynia.

The grain.

Vernacular. *Arunya, Dhanya, Unoo, Tanneola, Ashoovrihi,* Sans. *Chawl,* Hind. Dec. *Sari,* Sindh. *Dhan, Pusnee,* Hind. Beng. *Payera,* Mal. *Arissee, Nelloo,* Tam. *Beeum, Cheni, Oori, Urloo, Mattakarulu, Nevari-dhanyamu.* Tel. *Wee,* Cey. *Saba,* Burmah. *Shali,* Pers. *Rooz, Aroos,* Egypt. *Brass,* Malaya.

Habitat. ? Cultivated generally in the tropical and sub-tropical zones.

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Saccharum officinarum. *Linn.* *Common Sugar Cane.*

Linn. Syst. Triandria Digynia.

The sap, fermented.

Vernacular. *Ikshoo, Poondru, Rusala,* Sans. *Ik, Akh, Ookh, Ukyo,* Beng. *Ganna, Khuloa, Kajooli, Ich, Uch,* Hind. *Oos,* Dec. *Karumboo,* Tam. *Tebu,* Mal. *Cherukoo-bodi, Cherukoo-duboo,* Tel. *Kusseb-ul-sookr, Muddardjend* (Forskal, nomen Indicum ?), Arab. *Nie-shukr,* Pers. *Ghah,* Egypt.

Habitat. India. Cultivated to the 35°—40° on both sides of the Equator.

Remarks. For the controversy regarding sugar, see *Bambusa arundinacea* under "Drugs," and *Saccharum officinarum* under "Sugars." The juice of the *Common Sugar Cane* is little used as an intoxicant in the Presidency. *Guarapo* is prepared from it, and also the *Basi* of the Philippines. Other Gramineæ are distilled in India, and doubtless plants of many orders besides those enumerated are used surreptitiously for the preparation of wines and spirits under this Government. Thus small quantities of spirit are, it is said, secretly prepared by the *Hukims* or *Wieds* from rose buds, jasmine flowers, orange peel, fennel seed (Indian), &c. Spirits from these would be strongly flavoured with their volatile oil, and must be of the nature of weak liqueurs.

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DIVISION I.

Class 3. E.

Condiments and Spices.

N. O. 1. RANUNCULACEÆ. *CROWFOOTS.*

Nigella sativa. *W. Small Fennel-flower.*

Linn. Syst. Polyandria Pentagynia.

The seed.

Vernacular. *Krishna-jiraka, Musavi,* Sans. *Kalajira,* Hind. *Mugrela,* Beng. *Koolunjun,* Dec. *Carin-siragum,* Tam. *Nullagilakara,* Tel. *Kaloodooroo,* Cey. *Shoonez,* Arab. *Siah-daneh,* Pers. *Hub-sindee,* Egypt.

Habitat. The Mediterranean countries. Cultivated in India.

Remarks. The Black Cumin of Scripture; μελάνθιον of Hippocrates and Dioscorides; and *Gith* of Pliny. See "Drugs." N. O. 3. Magnoliaceæ furnishes *Illicium anisatum,* Linn. in China, and *I. religiosum,* Sieb. in Japan, the capsules of which are aromatic, those of the former plant being the *Star Anise* of commerce.

N. O. 4. Annonaceæ, *Xylopia aromatica,* the fruit of which is called *Piper Æthiopicum.* The fruit of *X. sericea* the *Pindaiba* of the forests of Rio Janeiro is also acrid and aromatic. *Monodora Myristica,* the *Calabash Nutmeg,* rivals the *True Nutmeg.* The roots of different species of *Polyalthias* are used as aromatics in Java.

N. O. 15. CRUCIFERÆ. *CRUCIFERS.*

Sinapis *sps. Species of Mustard.*

Linn. Syst. Tetradynamia Silliquosa.

The seed.

Vernacular. *Rajika, Sarshapa, Tuverica,* Sans. *Surson, Rai, Kali-sursoon, Tooria, Bunga-surson,* Hind. Dec. *Raee, Bun-raee, Bul-raee, Shwet-raee, Sada-raee, Jooni-raee, Sunchi-sursoon,* Beng. *Suray-bij,* Sindh. *Kadaghoo,* Tam. *Avaloo,* Tel. *Gan-aba, Rata-aba,* Cey. *Khurdal, Kubbr,* Arab. *Sirshuf,* Pers.

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Habitat. The temperate zones: widely cultivated.

Remarks. Mustard was the νάπυ of the Greeks. In India *S. ramosa, Raee; S. glauca, Toria; S. dichotoma, Kalie-surson;* and *S. juncea, Bunga-surson,* the *Khardel* and *Kubbr* of Arabia and Egypt are chiefly cultivated. The other pungent Crucifers, *Lepidium sativum, Nasturtium officinale,* or *Loot putiah, Raphanus sativus,* and *R. caudatus* are mentioned amongst vegetables. *Cochlearia Armoracia, Horse Radish,* is substituted in this country by the root of *Moringa pterygosperma.*

N. O. 16. CAPPARIDACEÆ furnishes the *Capers* of commerce.

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Bergera konigii. *W. et A.*

Linn. Syst. Decandria Monogynia.

The leaf.

Vernacular. *Kristna-nimba,* Sans. *Karia-phullee,* Beng. *Bursunga,* Hind. *Karay-paak,* Dec. *Koodia-neemb,* By. *Kari-bepon, Karreya-pela,* Mal. *Kari-pilli, Karaway-pillay,* Tam. *Kari-vepa, Karri-baympakoo,* Tel. *Watu-karapincha,* Cey.

Habitat. Cultivated in India.

Remarks. First described by Rumphius.

Citrus Bergamia. *Risso. Bergamot Citrus.*

Linn. Syst. Polyadelphia Polyandria.

The fruit,—Lime: and the rind.

Vernacular. *Nimbooka,* Sans. *Nemboo,* Hind. *Neboo,* Beng. *Lemboo*? Dec. *Eroomitchee-narracum,* Mal. *Elemitchum,* Tam. *Nemma-pandoo, Gajanimma,* Tel. *Dehi,* Cey.

Habitat. South Europe, India.

Remarks. *C. acida* of Roxburgh. The natives employ also the rind of other well-known Citronworts.

N. O. 42. GUTTIFERÆ. *GUTTIFERS.*

Garcinia purpurea. *Rox.*

Linn. Syst. Dodecandria Monogynia.

The rind.

Vernacular. *Kokum,* By. *Brindao,* Goa.

Habitat. Ravines of the Concan.

Remarks. First described by Van Rheede.

N. O. 58. TROPÆOLACEÆ, *Tropæolum majus*, W. *Great Indian Cress.*

N. O. 62. XYGOPHYLLACEÆ, *Peganum Harmala*, the seeds of which are used as a spice by the Turks, and *Zygophyllum Fabago*, W. *Common Bean-Caper.*

N. O. 64. XANTHOXYLACEÆ, *Xanthoxylon Budrunga* and *X. Rhetsa* of India and *X. piperitium* of Japan, and other species are used as pepper in their native countries.

N. O. 71. ANACARDIACEÆ. *ANACARDS or TEREBINTHS.*

Mangifera indica. *Linn. Common Mango.*

Linn. Syst. Polygamia Monœcia.

The unripe fruit,—fresh and preserved.

Vernacular. *Amra*, Sans. *Am*, Hind. Beng. Dec. *Mava*, Mal. *Mam-marum*, Tam. *Makandamu*, *Mavi*, *Mamadichettoo*, Tel. *Etamba* (wild), *Amba* (cultivated), Cey. *Mangga* (wild), Sunda. *Mampalam*, Malaya. *Palam*, Java. *Kapalam*, Lampung.

Habitat. East Indies. Cultivated near Muscat, and throughout the East.

Remarks. See "Drugs." The inspissated juice of the ripe Mango cut into cakes, is sold in the bazars of this Government under the name of *Amba-pooree*. It is both acid and sweet, and used like Red Currant jelly with certain kinds of meat, is a fine zest. Cakes of the inspissated juices of various fruits are also common in Bombay.

Spondias mangifera. *W. et A.*

Linn. Syst. Decandria Pentagynia.

The unripe fruit.

Vernacular. *Amrataka*, Sans. *Amra*, Beng. Hind. *Ambara*, Hind. *Jungli-amb*, Dec. *Ran-amb*, By. *Cat-ambolam*, Mal. *Caat-mavu*, Tam. *Adivie-mamadie*, *Amatum*, Tel. *Æmbærælla*, Cey.

Habitat. India.

N. O. 72. AMYRIDACEÆ. *AMYRIDS.*

Garuga pinnata. *H. K. Wing-leaved Garuga.*

Linn. Syst. Decandria Monogynia.

The ripe fruit,—fresh and dry.

Vernacular. *Toom*, Beng. Hind. *Koorak*, *Kanghur*, By. *Garugo*, *Kalugudu*, Tel.

Habitat. East Indies.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Tamarindus indica. *Linn. Common Tamarind.*

Linn. Syst. Monadelphia Triandria.

The pulp of the pod.

Vernacular. *Umlika, Tintiree, Tintili,* Sans. *Nuli, Ambli,* Hind. Beng. *Amlee, Tentool,* Beng. *Balam-pollie,* Mal. *Pollium,* Tam. *Chinta.* Tel. *Maha-siyambala,* Cey. *Amblie, Tamarhindee,* Arab.

Habitat. India.

Remarks. Fruit mentioned by the Arabians, and the ὀξυφοινίκα of Myrepsicus.

Trigonella Fœnum Græcum. *Linn. Common Fennugreek.*

Linn. Syst. Diadelphia Decandria.

The leaf.

Vernacular. *Methee, Moothee,* Hind. *Methee-shak, Methika,* Beng. *Mathee,* Dec. *Mentia,* Can. *Vendium,* Tam. *Mentluoo,* Tel. *Oolowa,* Cey. *Helbeh,* Arab. *Shimlet,* in the *Ulfaz Udwigeh.*

Habitat. The Mediterranean countries. Cultivated widely in India.

Remarks. The βουκέρας of Hippocrates.

N. O. 75. MORINGACEÆ. *MORINGADS.*

Moringa pterygosperma. *Gært. Smooth Horse-Radish Tree.*

The root.

Vernacular. *Sigroo, Sobhanjun,* Sans. Beng. *Shajina,* Beng. *Moongay, Sujna,* Hind. *Sainga, Saigut,* By. *Mooringay,* Mal. *Nugga,* Can. *Moorungay,* Tam. *Moorunga, Moonaga,* Tel. *Merikoolu, Ganmurunga,* Cey.

Habitat. The two Indies, Africa.

Remarks. See "Drugs."

N. O. 77. Calycanthaceæ, *Calycanthus floridus,* the bark of which is substituted for Cinnamon in the United States.

N. O. 85. Myrtaceæ yields no condiments and spices, native of, or cultivated in Western India. The berries of *Myrtus communis,* W. are found in the bazar; and Cloves, the dry, immature buds of *Caryophyllus aromacus,* Linn. are largely imported. See "Drugs." "Those of *Calyptranthes aromatica* (of Brazil) may be advantageously substituted. The Pepper called Allspice or Pimento is the dried (immature) fruit of *Eugenia acris,* and (*Eugenia*) *Pimenta.*" (De C.) "The fruit of *E. Caryophyllus* is used in the same way in Brazil, and of *Myrtus Tabasco* in Cumana." (Lindley). *Myrtus pimentoides,* N. ab E., yields the Ovate Pimento of the West Indies.

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N. O. 110. UMBELLIFEREÆ. *UMBELLIFERS.*

Anethum Sowa. *Rox.*

Linn. Syst. Pentandria Monogynia.

The fruit,—(Indian ?) Dill seed.

Vernacular. *Sitasiva, Missreya, Shaleya,* Sans. *Sowa, Soie, Soya, Shutapoospha,* Hind. *Saloopha, Soolpha,* Beng. *Suva,* Guz. *Shatha-koopha,* Mal. *Saddacooppie,* Tam. *Suddapa, Sompa, Sopu,* Tel. *Sattacooppa, Heen-œnduru* ? Cey. *Shubit,* Arab.

Habitat. India.

Remarks. See "Drugs."

Carum Carui. *Linn. Common Caraway.*

Linn. Syst. Pentandria Digynia.

The fruit,—Caraway seed.

Vernacular. *Curweeya,* Arab.

Habitat. The meadows and pastures of Europe and Asia Minor.

Remarks. See "Drugs."

Coriandum sativum. *Linn. Common Coriander.*

Linn. Syst. Pentandria Digynia.

The fruit,—Coriander seed, Cassibor.

Vernacular. *Dunya, Dhanyaca,* Sans. Hind. Beng. Dec. *Danga,* Mal. *Cottimbirry,* Can. *Cottamillie,* Tam. Tel. *Cotumbaroo,* Cey. *Kuzeerah,* Arab. *Kushneez,* Pers. *Mety,* Malaya.

Habitat.—South Europe, Tartary. Cultivated in India.

Remarks. See "Drugs."

Cuminum Cyminum. *Linn. Common Cumin.*

Linn. Syst. Pentandria Digynia.

The fruit,—Cumin seed.

Vernacular. *Jeruka, Ajaji,* Sans. *Jeera, Zira,* Hind. Beng. *Jeeraga,* Can. *Siragum,* Tam. *Gilakara,* Tel. *Dooroo,* Cey. *Kimoon,* Arab. *Jintan,* Malaya.

Habitat. Upper Egypt, Ethiopia. Widely cultivated.

Remarks. See "Drugs."

Fœniculum Panmorium. *De C.*

Linn. Syst. Pentandria Monogynia.

The fruit,—(Indian) Fennel seed.

Vernacular. *Mudoorika,* Sans. *Panmuohri, Mayuri, Souf,* Hind. *Goowamooree, Mooree,* Beng. *Warealee,* Guz. *Perun-siragum,* Tam. *Pedda-gillakara,* Tel. *Dewadooroo, Rata-œnduru*? Cey. *Razeeanuj,* Arab. *Badian,* Pers.

Habitat. India.

Remarks. See "Drugs."

Pimpinella Anisum. *Linn. Anise.*

Linn. Syst. Pentandria Digynia.

The fruit,—Anise seed.

Vernacular. *Setapushpa*? Sans. *Anesun, Saurif,* Hind. *Muhooree,* Beng. *Ervidos, Echra, Sataphushpha, Sonf,* By. *Somboo,* Tam. *Kuppi-chettu,* Tel. *Sinhala-asamodagan,* Cey. *Anesoon,* Arab. *Razaneh-roomee,* Pers. *Jeramanis,* Malaya.

Habitat. Scio, Egypt, Asia. Cultivated widely.

Remarks. See "Drugs." The berries of *Panax Anisum,* N. O. 111, have the odour of Anise.

Ptychotis Ajowan. *De C.*

Linn. Syst. Pentandria Digynia.

The fruit.

Vernacular. *Ajamodum,* Sans. *Ajwan, Juvanee, Boro-joan,* Hind. Beng. *Womum,* Tam. *Amoos,* Arab. *Nankah,* Pers.

Habitat. Cultivated in India.

Remarks. See "Drugs," under which Class *Asafœtida,* one of the commonest condiments in use here, is catalogued. The plant is not known in Bombay, hence is omitted in this place. The Angelica of Europe is the root of *Archangelica officinalis,* Hoff. et Koch.

N. O. 157. SOLANACEÆ. *NIGHTSHADES.*

Capsicum annuum. *Linn. Common Capsicum.*

Capsicum baccatum. *Linn. Bird-pepper.*

Capsicum grossum. *W. Large Capsicum, Bell-pepper.*

Capsicum frutescens. *Linn. Shrubby Capsicum, Guinea-pepper.*

Capsicum minimum. *Blanco.*

Capsicum nepalensis. *Dr. Owen.*

Linn. Syst. Pentandria Monogynia.

The fruit,—Chillies; and the powdered capsule of *C. frutescens,*—Cayenne Pepper.

Vernacular. **C. annuum,**—*Gachmurich,* Beng. *Capoo-mologoo,* Mal. *Mollaghai,* Tam. *Merapu-kai,* Tel. *Ratamiris,* Cey. **C. frutescens,**—*Bran-maricha,* Sans. *Lall-lunka-muricha, Huldi-lunka-muricha,* Beng. *Lal-mirchie,* Dec. *Meneshena,* Can. *Tambhudud-da-meerchingay,* Mahratta. (Piddington.) *Mollaghai,* Tam. *Merapu-kai,* Tel. *Gas-miris,* Cey. *Dar-felfel,* Arab. *Fætf-el-achmar,* Egypt. **C. minimum,**—*Dhan-lunk-murich,* Beng. *Dhan-murich,* Beng. *Nayi-miris,* Cey.

Habitat. *C. annuum,*—Equinoctial America. Cultivated in Africa and India. *C. baccatum,*—India? meridional America. *C. grossum,*—East Indies? *C. frutescens,*—East Indies? and intertropical America. *C. minimum,*—Philippines. *C. nepalensis,*—Nepaul?

Remarks. Besides the above, *C. pyramidale,* Mill. *C. conoides,* Mill. *C. fastigatum,* Blume, *C. angustifolium,* De C. *C. cerasiforme,* W. *C. longum,* De C. *C. cordiforme,* Mill. *C. tetragonum,* Mill. are said to be indigenous to India; *C. sinense,* Jacq. to China; and *C. crispum,* De C. to Mauritius. *C. luteum,* Lam. is the *Piment de Mozambique,* and also indigenous to India. The greatest doubt is entertained of the *Common Capsicum* being a native of Asia, but Sprengel says that it is, "without doubt," the *Piperitis* and *Siliquastrum* of Pliny. It is first undoubtedly mentioned together with *C. baccatum,* and *C. grossum* by Fuschius. Fraas considers the πέπερι ἀπόμηκες of Theophrastus to refer to *C. longum.* *C. frutescens* is first described by Monardes. The word κάψικον first occurs in Actuarius. *Chili* is the Mexican term for all species and varieties of Capsicum.

N. O. 161. LABIATÆ. *LABIATES.*

SWEET HERBS.

Anisochilus carnosus. *Wall.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Vonva,* By.

Habitat. India.

Lavandula vera. *De C. Common Lavender.*

Linn. Syst. Digynia Gymnospermia.

Vernacular.

Habitat. South Europe.

Remarks. Cultivated by Anglo-Indians. Sprengel, on the authority of Heyschius, refers the ἴφυον of Theophrastus to this plant, λαβαντίδα being the identification of Heyschius. Fraas refers Theophrastus's plant, with the στοιχάς of Dioscorides and *Stœchas* of Pliny, to *L. Stœchas.* De Candolle makes distinct species of *L. vera* and *L. Spica.* See "Drugs."

Coleus aromaticus. *Don.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Pothur-choor*, By.

Habitat. India.

Remarks. The *Country Borage* of Anglo-Indians.

Melissa officinalis. *W. Common Balm.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Badrungbuyeh*, Pers. Hind. *Ramtulsee?* Hind. *Mekka-subza*, Dec. *Parsie-cunjamkoray*, Tam. *Buklut-ul-faristoon, Buklut-ul-utrujyeh*, Arab.

Habitat. South Europe.

Remarks. The μελισσοφύλλον and μελιτταίνα of Dioscorides, and *Melisophyllum* of Pliny. See "Drugs."

Mentha piperita. *Linn. Peppermint.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. Watery places in Europe, Asia, Africa, and America.

Remarks. The μίνθος ἢ ἡδυοσμὸς of Hippocrates, and μίνθη of Theophrastus, according to Fraas; but Sprengel refers these Greek names to *M. sativa*, W.

Mentha Pulegium. *Linn. Pennyroyal.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. Europe, Caucasus, Teneriffe, Chilli?

Remarks. The γλήχων of Hippocrates and Dioscorides, and *Pulegium* of Pliny.

Mentha sativa. *W. Tall Red Mint.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Poodina*, Dec. *Widdetilam*, Tam. *Nana, Hubbuh*, Arab.

Habitat. Europe and Asia.

Remarks. See "Drugs" and *M. piperita.*

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Mentha viridis. *Linn. Spear Mint.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Pahari-poodenah,* Dec.

Habitat. Temperate Europe, Himalayas, parts of Africa and America.

Ocymum Basilicum. *W. Common Sweet Basil.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Manjirika,* Sans. *Kalee-tulsee,* Hind. *Pashanabheddie, Babooie-tulsee,* Beng. *Nazbo,* Sindh. *Subze,* Dec. *Tirnootpatchie,* Tam. *Vepoodipatsa, Rhu-tulsi, Rudrajada,* Tel. *Sawandatala,* Cey. *Rihan, Shahusferum, Hebak, Asaba-ul-feteyat, Badrooj? Bucklut-ul-zub?* Arab. *Deban-shab, Nazbu, Ungooshtkunee-zuckan, Tureh-khorasani?* Pers. *Berunj-mishk?* Vulg.

Habitat. India.

Remarks. The ὤκιμον of the Greeks, and *Ocimum* of Pliny, it is believed.

Ocymum minimum. *W. Bush Basil.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. East Indies.

Ocymum sanctum. *W. Purple-stalked Basil.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Parnasa, Sorasaw, Ajaka,* Sans. *Kala-tulsi,* Hind. Beng. *Kural, Toolsee,* Beng. *Toolasee,* Tam. *Niella tirtooa, Krishna-toolsee,* Mal. *Ulsee-badrooge,* Arab.

Habitat. India.

Remarks. See "Drugs."

Origanum heracleoticum. *W. Winter Sweet Marjorum.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. South Europe.

Remarks. The ὀρίγανος ἡρακλεωτικὸς of Dioscorides, and *Culina gallinacea* of Pliny, according to Fraas.

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Origanum Marjorana. *Linn.* *Knotted,* or *Sweet Marjoram.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Marwa,* Dec. *Marroo,* Tam. *Mizunjoosh,* Arab. *Mardakusch,* Arab. Egypt.

Habitat. Southern Europe, North Africa, Asia.

Remarks. According to Fraas the *ἀμάρακον* of Theophrastus, *σαμψύχον* of Dioscorides, and *Amaracus* of Pliny. It is the *Marjorana hortensis* of Monch.

Origanum Onites. *W.* *Pot Marjoram.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. Sicily.

Remarks. The *ὀνίτις ὀρείη* of Nicander, according to Sprengel.

Origanum vulgare. *Linn.* *Common Origanum.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Buklut-ul-gezal Sutur*? Arab. *Oushneh*? Pers. *Mridu-maruvamu,* Tel.

Habitat. Temperate Europe, Asia Minor.

Remarks. Probably the *ὀρίγανον μέλαν* of Theophrastus, and *ἀγροριγανος* of Dioscorides. See "Drugs."

Rosmarinus officinalis. *Linn.* *Common Rosemary.*

Linn. Syst. Diandria Monogynia.

Vernacular. *Ukleel-ul-jilbal, Hasalban-achsir,* Arab.

Habitat. South of Europe, Asia Minor.

Remarks. The *λιβανωτὶς στεφανωμάτικη* of Dioscorides, and *Rosmarinum* of the Romans. See "Drugs."

Salvia officinalis. *W.* *Garden Sage.*

Linn. Syst. Diandria Monogynia.

Vernacular. *Salbia,* Hind. *Sefakuss,* Ainslie.

Habitat. South Europe.

Salvia Sclarea. *W*. *Common Clary.*

Linn. Syst. Diandria Monogynia.

Vernacular.

Habitat. Italy.

Remarks. First mentioned by Tragus. The *Annual Clary* is *Salvia Horminum*, W., the ὅρμινον of Dioscorides, ὅρμηνον of Theophrastus, φόρμιον of Paulus Ægineta, φώρβιον of Galen, and *Oculus* Christi of old pharmacologists.

Satureja montana. *W*. *Winter Savory.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. South Europe.

Remarks. First mentioned by Mathiolus. The generic term is from *Satar*, the collective name amongst the Arabs for all Labiates (Loudon); but which is sometimes also specifically used.

Satureja hortensis. *W*. *Summer Savory.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. Italy.

Thymus citriodorus, *P. S.* *Lemon Thyme.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular.

Habitat. British heaths.

Thymus vulgaris. *Linn*. *Garden Thyme.*

Linn. Syst. Didynamia Gymnospermia.

Vernacular. *Ipar*, Hind. *Hasha*, Arab.

Habitat. South-West Europe.

Remarks. The θύμος of the ancients perhaps. Amongst "Sweet Herbs," gardeners also include the Composites *Tanacetum vulgare*, W., *Common Tansy*, and *Balsameta vulgaris*, W., *Common Costmary*.

N. O. 162. VERBENACEÆ. *VERBENES.*

Vitex bicolor. *W*. *Two-coloured Chaste Tree.*

Linn. Syst. Didynamia Gymnospermia.

The fruit.

Vernacular. *Neergoonda*, By.

Habitat. East Indies.

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Remarks. The fruit is not used as a condiment, and is inferior to that of *C. trifolia*, Linn., in pungency and aroma. Both plants are apt to be confounded with *W. Negundo*, Linn., *Quadrangular Chaste-tree*, the Eastern synonymes of which are,—*Sindhooka, Sinduya*, Sans. *Nirgundi*, Beng. *Nisinda, Shumbalie*, Hind. *Noochie*, Tam. *Wayalakoo*, Tel. See *V. trifolia*, "Drugs."

N. O. 178. LAURACEÆ. *LAURELS.*

✓ **Cassytha filiformis.** *Linn.*

Linn. Syst. Enneandria Monogynia.

The plant.

Vernacular. *Akash-wail*, By.

Habitat. India.

Remarks. A parasite, found in long festoons growing over trees, and said by Ainslie to be used for seasoning butter-milk by the Brahmins of Southern India.

Cinnamonum iners. *Rein.*

Linn. Syst. Enneandria Monogynia.

The leaf.

Vernacular. *Dar-chini*, Hind. *Coat-carva*, Mal. *Pachchaku*, Tel.

Habitat. Concans, Malabar.

Remarks. For the renowned aromatic products of the Laurels, (1) Cinnamon, (2) Santa Fe, and (3) Bourbon Cinnamons, (4) Cassia-lignea, (5) Folia-Malabathri, and (6) Culilawan or Clove-bark of Eastern Commerce, (7) Clove-bark, or Clove Cassia of Brazil, sometimes called Clove Cinnamon, (8) Massoy-bark, (9) *Maida-luckri*, and (10) Cassia flowers, see "Drugs." Besides *C. iners*, *C. Zeylanicum* var., *Cassia*, Nees, *C. nitidum*, Blume, and *C. Tamala*, Nees, are indigenous to India. Sassafras nuts or Pichurim beans, used in flavouring Chocolate, are the seed lobes of *Nectandra Puchury*, Nees, of the Rio Nigro; and Cujumary beans are from *Aydendron Cujumary*, and *A. Laurel*. *Nectandra cymbarum*, Nees, of Rio Nigro, *Sassafras Parthenoxylon* of Sumatra, *Benzoin odoriferum*, *Licaria guianensis*, and *Mespilodaphne pretiosa*, have all aromatic barks. Canella or Wild Cinnamon, and Winter's-bark or White Cinnamon are also used as aromatic condiments; the former being obtained from *Canella alba*, Murray, a *Meliad;* and the latter from *Drimys winteri*, De C., a *Magnoliad*. In the United States the bark of *Calycanthus floridus*, N. O. 77. Calycanthaceæ is substituted for Cinnamon. For Cascarilla, or Eleutheria-bark, see No. 195. Euphorbiaceæ.

N. O. 180. MYRISTICACEÆ. *NUTMEGS.*

Myristica fragrans. *Houtt. True Nutmeg.*

Linn. Syst. Diœcia Monadelphia.

The false aril,—Mace; and nucleus,—Nutmeg.

Vernacular. Mace,—*Jatiputri,* Sans. *Jaeputree,* Hind. Dec. *Jadiputri,* Tam. *Buzbas,* Arab. *Bisbaseh,* Vulg. *ex* Ulfaz Udwiyeh. *Boonga-pala,* Malaya. Nutmeg,—*Jatiphala,* Sans. *Jaya-phula,* Beng. *Jaephal,* Hind. *Jadicai,* Tam. *Jajikaia,* Tel. *Sadikka, Jatipullum,* Ceylon. *Jowz bewa,* Pers. *Jowz-ul-teib,* Arab. *Galago,* Banda. *Pala,* Eastern Archipelago.

Habitat. Moluccas,—especially the Banda group. Cultivated in Java, Sumatra, Singapore, Penang, Bengal, Bourbon, Mauritius, West Indies, and formerly in Western India by the Portuguese.

Remarks. This is the *M. officinalis* of Linnæus, *M. aromatica* of Lamarck, and *M. moschata* of Thunberg. The kernels of other species are often substituted. Thus the *Long* or *Wild Nutmegs* of commerce are from *N. fatua,* Houtt. of Banda. *M. Otoba,* Humb. et Bonp. yields the nutmegs of Santa Fe, and White Mace. *M. madagascarensis,* Lam. and *M. acuminata,* Lam. are used in Madagascar. *M. spuria,* and another called *Dungan,* are substituted in the Eastern Archipelago; *M. officinalis,* Mart. in Brazil; and *M. tomentosa,* Hook. fil et Th. in Penang. *M. malabarica,* Lam. (*M. dactyloides,* Wall.), and *M. attenuata,* Wall. Cat. 6791, are indigenous to the forests of the Concan and Malabar. This is the plant Graham has referred to Wallich's *M. amygdalina,* a native of Martaban and Maulmein. The former yields the *Malabar Nutmegs* of commerce,. The *Red Mace* of Amboyna is obtained from *Pyrrhosa tingens,* so called from its staining the fingers fiery red, when rubbed on them. The Camara or Ackawi Nutmeg of Guiana, the Clove Nutmeg, and the Brazil Nutmeg, are respectively from *Acrodiclidium Camara,* Schomb. *Agathophyllum aromaticum,* and *Cryptocarya moschata,* all Laurels. The *Calabash Nutmeg* is from *Monodora Myristica,* N. O. 4. The Plume Nutmegs, intermediate between Laurels and Nutmegs, yield fragrant products also, but as yet of no great economic interest. "Both nutmegs and mace," observes Pereira, "were unknown to the ancient Greeks and Romans, unless indeed the nutmeg be the aromatic Arabian fruit used in unguents, and which Theophrastus calls κωμακὸν. Pliny says that the 'cinnamum quod comacum appellant,' is the expressed juice of a nut produced in Syria. Does he refer to the expressed oil of nutmeg as some have suggested?" This may justly be accepted. That Comacum of the ancients, which was a fruit, Salmasius would indentify with Cubebs. The ancients were also most probably acquainted with Mace. Avicenna describes μάκερ under the name of *Talisfar.* Mesue defines *Bisbaseh* to be Mace; and Serapion appears to consider *Talisfar* one with *Bisbaseh.* Some Greek and Arabic dictionaries render *μάκερ* by *Bisbaseh* and the modern Greek for Mace is *μοσχομάκερ.* The best authorities are, however, against the conclusion that Mace is the ancient *μάκερ.* Of *Talisfar*, Salmasius, in his chapter " De Macer," remarks,—" Quidam tamen illud *Talisfar*, folium olivæ Indicæ interpretati sunt, ut notatum Alpago." In Northern India this is the name of the leaves of *Rhododendron lepidotum*, Wall. N. O. 129. See " Drugs."

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Cicca disticha. *W. Long-leaved Cicca.*

Linn. Syst. Monœcia Tetrandria.

The fruit.

Vernacular. *Hurfarori*, *Chelmeri*, Hind. *Cheramella*, *Huriphul Nubaree*, Beng. *Urfalayoorie*, Dec. *Nelli*, Mal. *Cherambola*, Goa. *Arunelli*, Tam. *Racha-usirike*, Tel. *Rata-nelli*, Cey. *Cheremin*, Malaya.

Habitat. Cultivated throughout India.

Remarks. First described by Van Rheede.

Phyllanthus Emblica. *W. Shrubby Phyllanthus.*

Linn. Syst. Monœcia Monadelphia.

The fruit,—Emblic Myrobalan.

Vernacular. *Amulki*, *Umrita*, Sans. *Amla*, Beng. *Aonla*, *Anooli*, *Amlaki*, *Aoongra*, *Aunwerd*, Hind. *Nelle*, Mal. *Nellie-kai*, Tam. *Userekee*, *Woosheriko*, Tel. *Awusada-nelli*, Cey. *Amluj*, Arab. *Amuleh*, Pers. *Boa-Malacca*, Malaya.

Habitat. East Indies.

Remarks. The *μυροβάλανους ἐμπλέτζ* of Myrepsicus, according to Sprengel. Certain Spurgeworts are also aromatic, as *Croton Eleuteria*, Swartz, and other species of Croton yielding Eleutheria bark, or Cascarilla. *Croton Cascarilla*, Don, does not yield Cascarilla, but is a source of Copalchi bark, *Coutarea latiflora*, N. O. Rubiaceæ and *Strychnos pseudo-Quina*, N. O. Loganiaceæ, being the other sources.

N. O 207. PIPERACEÆ. *PEPPERWORTS.*

Chavica roxburghii. *Mig. Long Pepper.*

Linn. Syst. Diandria Trigynia.

The dry immature fruit,—Long Pepper.

Vernacular. *Pippuli, Krishna-pippuli?* Sans. *Pippul, Pilpul, Felfildraz,* Hind. *Pippilie,* Dec. *Tipilie,* Tam. Can. *Peepal, Pippuloo,* Tel. *Tippili,* Cey. *Darfilfil,* Arab. *Filfildraz,* Pers. *Peik-khyen,* Burmah. *Chabai-jāwa, Tabee,* Malaya.

Habitat. India.

Remarks. Probably the πέπερι μακρὸν of Dioscorides.

Piper nigrum. *W. Black Pepper.*

Linn. Syst. Diandria Trigynia.

The dry immature berry,—Black Pepper; and the same husked,—White Pepper.

Vernacular. *Vellajung, Mureechung, Kolukung, Muricha,* Sans. Beng. *Goolmurich, Filfilgird, Mirch,* Hind. *Choca, Kaly-mirchingay,* Dec. *Mellaghoo,* Tam. *Moloovookodi, Mirialoo,* Tel. *Gammiris,* Cey. *Filfiluswud,* Arab. *Filfil-sceah, Pilpil,* Pers. *Babaree,* Syria. *Nya-yoke-koun,* Burmah. *Lada,* Malaya.

Habitat. East Indies. Cultivated also in the West Indies.

Remarks. Τὸ πέπερι στρογγύλον of Theophrastus, πέπερι τὸ μέλαν of Dioscorides, and Piper of Pliny. See "Drugs." The following articles have been substituted for Pepper, viz.:—the seeds of *Nigella sativa,* Fennel; the fruit *Xylopia aromatica,* Piper Æthiopicum; the fruit of *Xanthoxylon Badrunga, X. piperitium,* and *X. Rhetsa;* the fruit of *Vitex Negundo, V. bicolor,* and *V. trifolia;* the fruit of *Myrtus communis;* and the fruit of *Tasmania aromatica,* a Magnoliad.

N. O. 230. ORCHIDACEÆ. *ORCHIDS.*

Vanilla planifolia. *H. K. Fragrant Vanilla.*

Linn. Syst. Gynandria Monandria.

The fruit,—Vanilla.

Vernacular.

Habitat. West Indies. Cultivated in Bourbon and Mauritius with other species, and successfully reared in Bombay.

Remarks. This is the Bombay species. *V. aromatica,* Swartz, also yields a pod which passes for true Vanilla, but the best Mexican Vanilla is from *V. planifolia. V. guianensis,* Spiltberger, yields the large Vanilla of Guiana, and *V. Pompona,* Schiede, and *V. palmarum,* Lind. are also productive.

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N. O. 233. ZINGIBERACEÆ. *GINGERWORTS.*

Curcuma longa. *Ros. Long-rooted Turmeric.*

Linn. Syst. Monandria Monogynia.

The rhizome,—Turmeric.

Vernacular. *Peeta*, Sans. *Huridra*, Beng. Sans. *Huldi*, Sans. Beng. Hind. *Hulud*, Dec. *Arsina*, Can. *Mangellacua*, Mal. *Munjil*, Tam. *Passapoo*, *Pampi*, Tel. *Haradul*, *Haran-kaha*, Cey. *Zirsood*, *Urook-us-sefer*, Arab. *Zirdchoobeh*, Pers. *Coonhet*, Malaya.

Habitat. Cultivated in India, Java, China, Cochin China.

Remarks. The κύπειρος ἰνδικὸς of Dioscorides, and "Cypira, herba Indica," of Pliny. *Curcuma* is from *Kirkum*, the Persian for Saffron. Of Turmeric (*quasi* "Terra merita,") Royle writes,—"It is remarkable that in Persian works, *Khaldoonion tomagha* is assigned as its Greek name; in the *Tofht-ul-Mumineen*, the description by Dioscorides of *Chelidonium majus*, is translated and applied to the turmeric. But in the *Mukhzun-ul-Udwieh*, a true description is given of this substance, but the corrupt altered form of χελιδόνιον τὸ μέγα is equally applied."

Elettaria Cardamomum. *Maton. The True Cardamom.*

Linn. Syst. Monandria Monogynia.

Vernacular. *Ela*, Sans. *Morung-elachee*, Beng. *Ilachi*, Hind. Dec. *Yalum*, Mal. *Aila-cheddie*, Tam. *Yaylakooloo*, Tel. *Elachi*, Pers. *Kakule*, Arab. Turk.

Habitat. Malabar.

Remarks. This plant is the *Alpinia Cardamomum* of Roxburgh, and *Ranealmia Cardamomum* of Roscoe. The Ceylon, or Wild Cardamom, is from *Elettaria major*, Smith, cultivated at Kandy. *Amomum Cardamomum* of Linnæus, a native of Sumatra and Java, yields *Round Cardamoms*. *A. Granum Paradisi*, Afzelius, and *A. melegueta*, Roscoe, of Guinea, yield *Grains of Paradise* and *Malagueta Pepper*. *A. maximum*, Roxburgh, of Java, yield the larger *Java Cardamoms* of commerce. *A. macrospermum*, Smith, of Sierra Leone, yield the so-called *Cajuputi seeds*. Besides these *A. globosum*, Loureiro, of Cochin China and China, and *A. villosum*, Loureiro, of Cochin China, *A. clusii*, Smith, and *A. danielli* of Attapah (Pereira figs. 249, 250, 251, 252,) are used locally. Pereira notices two interesting species of Cardamom, one of which, in "Dr. Burgess's collection at the College of Physicians," he has referred to a hypothetical plant, *A. citratum*, and the other, the *Korarima*, or *Guragie spice* of Abyssinia, to the hypothetical *A. Korarima*. Dr. Cleghorn, in his chapter on "Botanical Inquirenda" ("Forests and Gardens of Southern India") writes,—"The so-called wild or bastard Cardamom of Siam is produced by *Amomum xanthioides*, Wallich, a plant of which *complete* and well-preserved specimens are requested in order that it may be described and figured. The seeds *per se* have been imported into England, while the empty capsules are found in the drug-shops of China. Are the latter exported from Siam to China?" He also states that information is required regarding the *Yang-chun-sha (Hairy China Cardamom), Tsaou-kow (Round China Cardamom), Yih-che-tze (Bitter Seeded Cardamom)*, and *Quá-leu* or *Taou-kwo (Ovoid Cardamom)*, of China. The Wild Cardamom of the Cape of Good Hope is the fruit of *Fagarastrum capense*, Don. N. O. 64. Xanthoxylaceæ. The Cardamomum of Pliny, (καρδάμωμον of Dioscorides and Theophrastus) was the *True Cardamom*, but probably also included all similar seeds brought from the East.

Zingiber officinale. *Ros. Narrow-leaved Ginger.*

Linn. Syst. Monandria Monogynia.

The rhizome,—Ginger.

Vernacular. *Ardruka, Ardrukum*, Sans. *Adruk*, Beng. Dec. *Ada*, Beng. Hind. *Sonth*, Hind. Dec. *Ischi*, Mal. *Injie, Sookkoo*, Tam. *Ullum, Sonti*, Tel. *Ammoo-inguroo*, Cey. *Zinjebeel-rutb*, Arab. *Zinjebeel-tur*, Pers. *Alia*, Malay.

Habitat. Cultivated in tropical Asia and America, and at Sierra Leone.

Remarks. The ζιγγίβερις of Dioscorides, and *Zingiber* of Pliny.

N. O. 236. IRIDACEÆ. *IRIDS.*

Crocus sativus. *Allioni. Saffron Crocus.*

Linn. Syst. Triandria Monogynia.

Vernacular. *Kasmirajamma, Kunkuma*, Sans. *Zofran, Keysur*, Hind. *Khoongoomapoo*, Tam. *Koon-koomapoo, Kunkuma*, Tel. *Kohoon*, Cey. *Koorkum, Zafran*, Arab. *Kerkum, Zafaran*? *Abeer*? Pers. *Thanwen*, Burmah. *Saffaron, Connyer*, Malaya.

Habitat. Asia Minor, *Cashmir*? Naturalized over temperate Europe.

Remarks. The *Carcos* of the "Song of Songs," and κρόκος of the Greeks. *Sicilian Saffron* is obtained from *C. odorus*. At the Cape of Good Hope, the flowers of *Lyperia crocea*, Erkl. N. O. 160. Scrophulariaceæ, are substituted for Saffron under the name of *Geele boemetjes*.

N. O. 242. LILIACEÆ. *LILYWORTS.*

Allium sativum. *Linn. Cultivated Garlic.*

Linn Syst. Hexandria Monogynia.

The bulb,—Garlic.

Vernacular. *Mahooshooda, Lusuna?* Sans. *Loshoon, Lushoona, Rushoon,* Beng. *Lussun,* Dec. *Belluly,* Can. *Vullay-poondoo,* Tam. *Velligudda,* Tel. *Soodooloonoo,* Cey. *Teriac-rowstyan,* Arab. *Seer,* Pers. *Tom,* Egypt. *Buvung-pootie,* Malaya.

Habitat. Sicily. Cultivated widely.

Remarks. The σκόροδον of Theophrastus and Dioscorides, and *Alium* of Pliny. An alliaceous odour is found in several plants, as in *Petiveria tetrandra,* and *Seguiera alliacea* of Brazil, N. O. 175. Petiveriaceæ. Certain Meliads (N. O. 50) belonging to the genera, *Hartighsea* and *Dysoxylon,* have fruits used as garlic in Java. The young shoots of *Cedrela angustifolia,* N. O. 52, smell of garlic.

N. O. 273. LICHENES. *LICHENS.*

——— ———?

Linn. Syst. Cryptogamia.

The plant.

Vernacular. *Kullhoo,* Dharwar.

Habitat. Dharwar.

Remarks. Forwarded to the Museum as "an exfoliation from stone."

GSL

DIVISION I.

Class 3. F.

STARCHES.

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Jatropha Manihot. *Linn.* *Cassava, Manioc.*

Linn. Syst. Monœcia Monadelphia.

Fecula of the root,—Cassava Starch, Brazilian Arrow-root, Cipipa, Mousache; and the fecula of the root, roasted,—Tapioca.

Vernacular. *Maracheenie,* Mal. *Maravullie,* Tam. *Mangyokka,* Cey.

Habitat. Tropical America. Cultivated on the East and West coasts of Africa, on the Malabar coast, in Ceylon, and throughout Polynesia.

Remarks. First noticed by Monardes and Piso. "The rasped root, mixed with water, boiled and fermented, yields a liquor called Cassiri. Cassava meal is obtained by subjecting the grated root to pressure to express the juice, and then drying and pounding the residual cake. Of this meal Cassava Bread is made. The expressed juice, by repose, deposits the farina called Cassava starch or Tapioca. A sauce called Casareep, or Cassireepe, is made from the juice." Tapioca is properly speaking Cassava meal, which has been roasted while moist. The juice of the root is poisonous, and used by the natives of South America for poisoning their weapons. *Manihot Aipi,* Pohl, is the Sweet Cassava, and is probably only a variety of the Cassava. *Manihot Janipha,* Pohl, of the West Indies, is also probably only a variety. These species or varieties possess no poisonous juice.

N. O. 223. CYCADACEÆ. *CYCADS.*

Cycas circinalis. *W.* *Broad-leaved Cycas.*

Linn. Syst. Diœcia Polyandria.

The fecula of the pith.

Vernacular. *Sagu,* Tonquin, Moluccas, Eastern Archipelago? *Buzur-butoo,* By.

Habitat. East Indies. Naturalized in Bombay.

Remarks. Various Cycads contain starch in their stems or fruit, which, when extracted, constitutes a variety of Sago or Arrowroot. *C. circinalis* yields it in the Eastern Archipelago from the pith of the trunk, and also of an inferior quality from the kernel. The fruit is also eaten, and the plant exudes a gum similar to Tragacanth. *Cycas revoluta,* W. a native of China, is the source of "Japan Sago." *Zamia pumila,* B. M. of the Cape of Good Hope (Loudon), and West Indies (Lindley), *Z. integrifolia,* W. also of the West Indies, various Cape species of *Encephalartos,* as *E. caffer,* Lehm. and the seeds of *Dion edule,* Lind. of Mexico, also yield the same kind of fecula. True Sago is the fecula of several species of Palms. See "N. O. 233-234 and 251." *Buzur-butoo* is a Deccan name (Ainslie) of *Corypha umbraculifera,* W. *Great Fan-Palm.*

N. O. 233. ZINGIBERACEÆ. *GINGERWORTS.*

Curcuma angustifolia. *Rox.* *Narrow-leaved Turmeric.*

Linn. Syst. Monandria Monogynia.

The fecula of the tubers,—East Indian Arrow-root.

Vernacular. *Ticor, Tikur,* Hind. *Kooa-koghei,* Hind. Mal. *Kooa-maoo,* Tam.

Habitat. The Concans, Nagpore, Travancore, Benares.

Remarks. This is said to yield the East Indian Arrow-root of commerce, and most probably it does a portion. Much confusion exists, however, regarding the Arrow-root yielding Gingerworts of India, and I am as yet able to throw no positive light on the subject. Dr. Waring, when forwarding me the roots of the Travancore *Curcuma,* believed the species to be *C. angustifolia,* Rox., but had not examined the flower. It yields, he states, only a portion of what is called "Travancore Arrow-root," by far the greater portion being obtained from the West Indian *Maranta arundinacea,* Linn. Often under the same name, he also states, Cassava meal is sold,—the Manioc being largely cultivated about Travancore. O'Shaughnessy states that the tubers of *C. rubescens,* Rox. are used in Travancore and Bengal; those of *C. leucorrhiza,* Rox. in Behar; and those of *C. angustifolia,* Rox. in Benares. *Tikor* he gives as the native name of each. Royle states simply,—"The pendulous tubers of *Curcuma rubescens, leucorrhiza,* and *angustifolia,* yield a very beautiful fecular or starch, which forms an excellent substitute for the West Indian Arrow-root, *Maranta arundinacea.* It is sold in the bazars of Benares, Chittagong, and Travancore, and eaten by the natives; a very excellent kind, called *tikur,* is also made at Patna and Boglipore from the tubers of *Batatas edulis.*" Ainslie states *C. angustifolia* to be the Malabar species. Of N. O. 230. Orchidaceæ four species of *Eulopia* are natives of Western India, but I am not aware of any of them yielding Salep. The native name of *E. bicolor* so common on the Ghâts is *Amberkund.*

Curcuma caulina. *Graham.*

Linn. Syst. Monandria Monogynia.

The fecula of the tubers,—Mahableshwur Arrow-root.

Vernacular. *Chowur*, By.

Remarks. This is the undoubted source of Mahableshwur Arrow-root.

Curcuma pseudo-montana. *Graham.*

Linn. Syst. Monandria Monogynia.

The fecula of the tubers,—Rutnagherry Arrow-root.

Vernacular. *Kutcherra* (Dr. De Crespigny), *Sinderbur, Sinderwanee Shindelwan, Hellownda* (Graham), By.

Habitat. The Concans.

Remarks. I have not seen the Rutnagherry Arrow-root in flower, but it is probably the plant described by Graham under the above name from its resemblance to Roxburgh's *C. montana.* Is Graham's plant identical with Royle's *C. Kuchoor* of Sirmore and Bissehur? The other Curcumas on this of India are, *C. decipiens,* Dalz. *C. Zedoaria,* Rox. and *C. Amada,* Rox. *Alpinia Galanga,* Swartz, is also indigenous, and can yield Arrow-root.

Canna glauca. *Roscoe. Glaucous Indian Shot.*

Linn. Syst. Monandria Monogynia.

The fecula of tubers.

Vernacular.

Habitat. South America. Naturalized in Bombay.

Remarks. This plant yields a valuable starch, and is stated by Simmonds to be one of the sources of Tous-les-mois, which is obtained chiefly from *Canna edulis,* Ker. Simmonds also gives *C. coccinea,* Roscoe, and *C. Achiras,* Bot. Reg. tab. 1358, as sources of that West Indian product. But *C. coccinea* has a fibrous root like the *C. indica,* Roscoe, of Bombay gardens, and the *Achira* of Peru is probably a variety only of *C. edulis,* Ker. *C. glauca* flourishes luxuriantly in Bombay, but is not used. "Portland Arrow-root" is prepared from the tubers of *Arum maculatum,* Linn. *Common Arum, Cuckoo Pint, Wake Robin,* or *Lords and Ladies* of Britain. N. O. 257.

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N. O. 234. MARANTACEÆ. *MARANTS.*

Maranta ——?

Linn. Syst. Monandria Monogynia.

The fecula of the tubers.

Vernacular.

Habitat. Burmah?

Remarks. A plant largely cultivated at Kirkee by the Agri-Horticultural Society of Western India, with tubers and starch indistinguishable from the tubers and starch of *Maranta arundinacea*, Linn. *West Indian Arrow-root.* It is not the West Indian plant however, but I believe *M. ramosissima,* with which however I cannot identify it, as no description of that plant is accessible to me. The West Indian plant is said to be cultivated in India by nearly every Anglo-Indian writer. Is this true? The Society's plant is said to have come originally from Calcutta (Silhet?). *M. arundinacea* was first described by Martyn, and West Indian Arrow-root was mentioned by Hughes in 1751.

N. O. 240. TACCACEÆ. *TACCADS.*

Tacca pinnatifida. *Rox. Salep Tacca.*

Linn. Syst. Hexandria Monogynia.

The root; and the fecula of the root,—Tahiti Arrow-root, Otaheite Salep, Tacca starch.

Vernacular. *Kunda,* Dec. *Carachunay,* Tam. *Chunda,* Tel.

Habitat. The Concans, Malabar, Zanzibar, Eastern Archipelago.

Remarks. The species of *Tacca* which yields the Tacca starch, actually produced at Tahiti, and the other islands of the South Sea, is *N. oceanica,* Nuttal. *T. pinnatifida* however yields an excellent starch, included under the same commercial designation, and was until lately considered the true Polynesian plant. Seeman states that two Taccas are found in the Fiji Islands, namely, *T. pinnatifida,* Forst. called *Yabia dina*; and *T. sativa,* Rumph. called *Yabia Sa.*

N. O. 251. PALMÆ. *PALMS.*

Borassus flabelliformis. *W. Fan-leaved Borassus. Palmyra.*

Linn. Syst. Diœcia Hexandria.

The germ.

Vernacular. *Tala,* Sans. *Tal,* Beng. Hind. *Tarie,* Hind. *Tar,* Dec. *Ampana, Carimpana,* Mal. *Panang-kulloo,* Tam. *Putoo-toadi, Sati-kulloo, Penty,* Tel. *Tal-gaha,* Cey. *Dom* (Forskal), *Tafi,* Arab. *Lontar,* Malaya.

Habitat. East Indies.

Remarks. Crawford, Tennant, and other writers, state that the germ of this nut, pushed to the first stage of growth, and dried in the sun, constitutes a very palatable vegetable, and that subsequently reduced to powder forms a fecula highly esteemed by the Dutch. The germ is eaten in Bombay and is the *Pannag-kalung* of the Tamils.

Caryota urens. *W.* *Torn-leaved Caryota.*

Linn. Syst. Monœcia Polyandria.

The fecula of the pith.

Vernacular. *Bheerlee-mahr,* By. *Erimpana, Schunda-pana,* Mal. *Coonda-panna,* Tam. *Teerooga,* Tel. *Kitul,* Cey.

Habitat. East Indies.

Remarks. This tree is chiefly found in Malabar, Bengal, Assam, and other parts of India, and is more remarkable for the immense quantity of *toddy* and *jaggery* (sugar) it yields than for its fecula, which however is palatable, and easily obtained. I am not aware of its sago being used in this Presidency. Ainslie gives *Codda-panna,* as the Malabar name of *Corypha umbraculifera,* W. the pith of which also yields Sago. The best Sago, and the substance which is familiar to Europeans under that name, is obtained from two species of *Metroxylon,* namely, *Metroxylon rumphii,* Martius (*Sagus rumphii,* W. *Sagus genuina,* Rumphius) *Rumphius's Sago-palm,* and *Metroxylon læve,* Martius (*Sagus lævis,* Rumphius), of the Eastern Archipelago, the *Rambiya* of the Malays. *Arenga saccharifera,* Labill. (*Saguerus rumphii,* Rox., *Borassus Gomutus,* Lour. *Gomutus saccharifera,* Spr. *Saguerus saccharifer,* Blume. "Palma Indica vinaria secunda, Saquerus sive Gomutus Gomuti," Rumphus. *Anau,* Marsden)—the Sagwire, or Gomuti of economic works, and also a native of the Eastern Archipelago, yields largely a good Sago. Like the *Caryota urens,* it is yet more famous for its *toddy* and *jaggery,* as well as for the fibre covering the base of the petiole, the *Ejoo* or *Gomuti* of the Malays. The flesh of the fruit yields the "Hell water" of Dutch writers, but the seed is edible. *Sagus vitiensis,* Wenal. is the Sago-yielding Palm of the Figi Islands, and it is called *Niu-soria,* and *Sogo* by the natives. The *Ipurma* Sago of St. Thomas is obtained from *Mauritia flexuosa,* Wallace; and *Giulielma speciosa,* Mart. of Guiana and the Amazon country is also fariniferous. *Metroxylon filare,* Mart. yields a very inferior Sago; as is also stated of *Raphis flabelliformis,* Ait. a native of Southern China; and *Corypha Gebanga,* Blume, of Java. *Phœnix farinifera,* W. *Small Date-palm* of Coromandel, the *Sirroo-eetchum* of the Tamils, and *Chittyeita* of the Telingas, has a floury drupe eaten as a bread stuff by the natives without preparation. The ancients would appear to have been unacquainted with Sago, and the substance is first mentioned by Marco Polo. The word is from the Malay *Sagu,* which seems to be applied to whatever species of Palm or Cycad may in any region of the Eastern Archipelago be there the special source of the farina used.

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N. O. 256. TYPHACEÆ. *BULRUSHES.*

Typha elephantina. *Rox.*

Linn. Syst. Monœcia Triandria.

The pollen.

Vernacular. *Hogla*, Beng. *Boor, Booree,* Sindh.

Habitat. Sindh, Deccan.

Remarks. This species of *Cat's Tail* affords the Booree bread of Sindh. The pollen of *Typha utilis* forms the *Hunga-hunga* bread of New Zealand.

N. O. 265. CYPERACEÆ. *SEDGES.*

Linn. Syst. Monœcia Triandria.

The corm.

Vernacular. *Kutchera*, By.

Habitat. India.

Remarks. A root is sold in Bombay under the name of *Kutchera*, and I am credibly informed from Tanna and Ahmedabad that it is commonly eaten in those Collectorates. It is apparently a Sedge. *Kutchera* is a name applied also to species of Curcuma, and is equivalent to the term "fecula." The corms of *Cyperus esculentus*, W. (μαλινοθάλλη of Theophrastus), are used in the South of Europe. The Chinese eat those of *Scirpus tuberosus*, their *Pi-tsi ;* and *Cyperus bulbosus*, and *Scirpus dubius*, Rox. are used by the Telingas.

The following list of plants includes such as yield fecula, or are valued on account of the starch contained in their roots, bulbs, corms, or tubers and fruits, and which are neither indigenous to, nor cultivated on an economic scale in Western India ; and also a few indigenous plants little prized for their fecula, and which have already been catalogued in detail under the head of "Fruits and Vegetables" :—

N. O. 10. NYMPHÆACEÆ.

Nymphæa Lotus, Linn. Seed and root. See "Fruits and Vegetables."

N. O. 11. NELUMBIACEÆ.

Nelumbium speciosum, W. Seed and root. See "Fruit and Vegetables."

N. O. 58. TROPÆOLACEÆ.

Tropæolum tuberosum. *Maund* of Peru. Root.

N. O. 71. ANACARDIACEÆ.

Mangifera indica, Linn. Kernel. See "Fruits and Vegetables."

N. O. 74. LEGUMINOSÆ.

Apios tuberosus, Bœr. *Saa-ga-ban* of Micmac Indians. Root.

Dolichos bubosus, Linn. seu *Pachyrhizus angulatus,* Rich. Polynesia. Root.

Dolichos tuberosus.

Glycine subterranea. *Voandzou* of Madagascar. Root.

Lathyrus tuberosus, W. Holland. Root.

Pueraria sp.

See also "Agricultural produce,—Pulse."

N. O. 90. HALORAGACEÆ.

Trapa bicornis, W. China. Seed.

Trapa natans, W. Europe. Seed.

Trapa bispinosa, W. et A. India. Seed. See "Fruits and Vegetables."

N. O. 97. PORTULACACEÆ.

Claytonia tuberosa. Siberia. Root.

Claytonia virginica, Ph. North America. Root.

N. O. 98. ILLECEBRACEÆ.

Spergula sativa. Norway. The flour of the Seed.

N. O. 110. UMBELLIFERÆ.

Anethum graveolens, W. *Yampa* of North American Indians. Root.

Aracacha esculenta. One *Aracacha* of Peru. Root.

Cymopterus————? The root is used by the Pawnee Indians.

Helosciadium californicum. Oregon. Root.

To this order belong also the *Pooh-pooh* of the Spokan Indians, and the "Biscuit-roots" of Oregon.

N. O. 117. VALERIANACEÆ.

Valeriana edulis. *Kooyah* of North American Indians. Root.

N. O. 120. COMPOSITÆ.

Carduus virginianus. Rocky Mountains. Root.

Helianthus tuberosus, W. Root. See "Fruits and Vegetables."

N. O. 151. CONVOLVULACEÆ.

Batatas edulis, Don. Root. See "Fruits and Vegetables."

N. O. 157. SOLANACEÆ.

Solanum tuberosum, W. Root. See "Fruits and Vegetables."

N. O. 161. LABIATÆ.

Ocymum tuberosum. *Kantang* of Java. Root.

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N. O. 170. AMARANTACEÆ.

The grain *Rajgeera* of this Presidency belongs to this order. Lindley states that the seeds of *Amarantus frumentaceus*, and *A. Anardhana* are gathered as corn crops in India.

N. O. 171. CHENOPODIACEÆ.

Chenopodium Quinoa, W. *Quinoa*, grain of Peru.

N. O. 176. POLYGONACEÆ.

Fagopyrum esculentum. Buckwheat.

N. O. 200. ARTOCARPACEÆ.

Artocarpus incisa, W. *True Bread Fruit Tree* of South Seas.

Ficus panifica, Abyssinia.

N. O. 220. CONIFERÆ.

Araucaria bidwillii, Hook. The *Bunza Tunza* of Moreton Bay Seed.

Araucaria imbricata, W. Chili. Seed.

Pinus fremontiana, Endl. Rocky Mountains. Seed.

Pinus Pinea, Linn. South Europe. Seed.

N. O. 224. DIOSCORIACEÆ.

Dioscorea aculeata, W.
Dioscorea alata, W.
Dioscorea bulbifera, W.
Dioscorea peataphylla, W.
Dioscorea sativa, W.

See "Fruits and Vegetables."

Testudinaria Elephantipes. Caffraria. Pith.

N. O. 230. ORCHIDACEÆ.

Eulophia vera.
Eulophia campestris.

The roots of these plants probably constitute Oriental Salep.

Gastrodia sesamoides, R. Br. New Holland. Root.

Orchis Morio, *O. mascula*, W. *O. militaris*, W. *O. papilionacea*, W. *O. coriophora*, Per. and *O. undulatifolia*, Per. yield European Salep.

The *Boyams* root of New South Wales belongs, it is said, to this order.

N. O. 235. MUSACEÆ.

Musa paradisiaca, W.
Musa sapientum, W.

Both yield fecula. See "Fruit and Vegetables."

N. O. 236. IRIDACEÆ.

A species of *Tigridia*, yields an edible root in Mexico.

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N. O. 237. LILIACEÆ.

Camassia esculenta. *Quamash* of North American Indians.

Cordyline Ti.
Dracæna ferrea.
} Polynesia.

N. O. 257. ARACEÆ.

Amorphophallus campanulatus, W. Root.
Arum Colocasia, W. Root.
Arum esculentum? *Eddoes* and *Coco* of West Indies. Root.
Arum indicum, Lour. Root.
Arum maculatum, W. The Source of "Portland Sago."
Arum nymphæifolium. Root.
Arum trilobatum, W. Root.
Caladium costatum.
Caladium grandifolium, W. Root.
Caladium ovatum, W. Root.
Caladium sagittifolium, W. Root.
Colocasia himalensis.
Colocasia macrorhiza.
} See "Fruits and Vegetables."

Arum rumphii of Polynesia, yields farina according to Simmonds.

N. O. 266. GRAMINACEÆ.

Avena sativa, Linn. and other species. Oats.

Festuca (Glyceria, Brown) *fluitans*, Linn. of Russia. "Manna Croup."

Hordeum distichon, Linn. and other species. Barley.

Oryza mutica, Rox. "Upland Rice."

Panicum fasciculatum, Swartz. Jamaica, Cumana, Mexico, Guiana, Quito, St. Thomas.

Panicum oryzoides, Swartz. Jamaica and Brazil.

Paspalum exile, according to Simmonds the *Fundi* or *Fundungi* of West Africa.

Poa abyssinica, Jacq. *Teff* of Abyssinia.

Secale cereale, Linn. Rye.

Sorghum avenaceum, Beauv. Cape.

Sorghum caffrorum, Beauv. Cape.

Triticum vulgare, Kunth. and other species. Wheat.

Zizania aquatica, H. K. "Canada Rice."

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Soojee, Rolong, Semola, Semolina, Smoletta, Semola rarita, and *Urena,* are simply forms of Wheat flour. See also "Agricultural Produce—Cereals."

N. O. 267. FILICES.

Alsophila sp. Tasmania. Root.
Cibotium billardieri. Tasmania. Pith.
Cyathea medullaris.
Diplazium esculentum.
Gleichenia hermanni.
Marattia alata, Swz. Sandwich Isles.
Nephrodium esculentum. Nepaul. Rhizome.
Pteris esculenta, Swz. Australia.

N. O. 273. LICHENES.

Cetraria icelandica, Ach. Iceland Moss.
Cetraria nivalis, Ach. *Snow Citraria* of North Europe.
Lecanora esculenta.
Lecanora affinis.
Stricta pulmonacea, Ach. *Liverwort Stricta* of England.

The Tartars also eat an undetermined Lichen under the name of "Earth bread."

N. O. 274. FUNGI.

Agaricus sps. Mushrooms of Europe.
Boletus esculentus. Per. Britain.
Cyttaria darwinii, with Arbutus berries, constitute the only vegetable food of the people of Terra del Fuego.
Cyttaria berteroi. Chili.
Exidia hispidula. China.
Morchella esculenta. Per. Esculent Morel of Europe.
Mylitta australis. "Native Bread" of Tasmania.
Tuber sps. Truffles of Europe.

N. O. 276. ALGÆ.

Chondrus mamillosus. }
Chondrus crispus. } Carrigeen moss.
D'Urvillæa utilis. Chili.
Fucus sps.
Gigartina speciosa. Swan River.
Gelidium corneum, forming the Bird's nests eaten by the Chinese.
Gracilaria lichenoides, Ceylon Moss.

Gracilaria spinosa, *Agar-Agar* of the Eastern Archipelago and China.

Laminaria saccharina,
Laminaria esculenta, *Badderlocks*, } of Scotland.

Nostoc commune, of Arctic regions.

Nostoc edule, of China.

Porphyra laciniata,
Porphyra vulgaris, } *Slouk*, of Scotland.

Rhodymenia palmata, *Dulse* of Scotland.

Suhria vittata, Cape of Good Hope.

DIVISION I.

Class 3. G.

SUGARS.

N. O. 25. TAMARICACEÆ. *TAMARISKS.*

Tamarix indica. *Rox.* *v.* **Gallica**. *Linn.* *Indian Tamarisk.*

Linn. Syst. Pentandria Trigynia.

The saccharine exudation,—Arabian Manna.

Vernacular. The tree,—*Ihaoo*, Hind. *Pakke*, Tel. *Toorfa*, Arab. *Guz*, Pers. The exudation,—*Guzunjabin*, Pers. Vulg.

Habitat. The Mediterranean lands, Arabia, Sindh, Rohilcund.

Remarks. This exudation is said to be produced by the puncture of the *Coccus maniparus.* It is often called Arabian Manna to distinguish it from *Toorunjabin*, or Persian Manna, secreted by *Alhagi maurorum*, Tourn. N. O. Leguminosæ; *Shirkist*, or Khorassan Manna, said to be the product of a species of Olive; and Sicilian Manna the sweet concrete exudation of *Fraxinus Ornus*, Linn. and *F. rotundifolia*, Linn. both Oliveworts. Australian or Gum-tree Manna is a spontaneous exudation from *Eucalyptus mannifera*, Moudie (Trans. Med. Bot. Soc. iii. 24), N. O. 85. Myrtaceæ. Bennett states that the *Eucalyptus viminalis* of Hooker is the source of Australian Manna, and that it is produced by the perforations of a *Tettigonia.* He also states that a saccharine and mucilaginous substance, called *Lerp* by the natives, is produced on *Eucalyptus dumosa*, A. Cunn. by a *Psylla.* In a note to chapter viii. of Livingstone's Missionary Travels, it is said that a sweet gummy exudation called by the aborigines of New Holland *Woo-me-la*, is produced by a species of *Psylla* on a species of *Eucalyptus.* Is this *Lerp?* In the chapter quoted, Livingstone mentions that the larvæ of a species of *Psylla* appear in South Africa on the *Mopane* tree (*Bauhinia* sp.? N. O. 74.) covered with a sugary secretion, which the inhabitants collect and eat. At the Cape of Good Hope, *Vascoa amplexicaulis*, De C. has a saccharine root, called *Zoethout-boschje*, used by the colonists as a substitute for Liquorice, the root of *Liquoritia officinalis*, Monch. The root of *Abrus precatorius*, Linn. *Jamaica Wild Liquorice*, is substituted here, and in the West Indies. *Ononis spinosa*, W. *Common Rest Harrow* of Britain, *Glycyrrhiza echinata*, *G. glandulifera*, and *Trifolium alpinum*, have sweet roots, which however are little known. *Taverniera cuneifolia* of this Presidency has a sweet root, and hence it is called *Jutimud*, which is the native name of officinal Liquorice. All these are Leguminous Plants. *Meum mutellina* and *M. athamaticum*, N. O. 110, have sweet aromatic roots used in the preparation of *Venice Treacle;* and the root of *Panax quinquefolium*, N. O. 111 is also sweet and used for Liquorice, At the Cape of Good Hope also the nectar found in the involucre of *Protea mellifera*, Linn. N. O. 182. Proteaceæ, is collected and used under the name of *Boschjes Stroop*. Other species also probably contribute to this natural syrup; and Lindley states that the flowers of *Melianthus Major*, N. O. 62, Zygophyllaceæ are so full of honey that it is shaken from the plant in heavy showers, and used by the natives at the Cape. The flowers of *Columnea scandens*, N. O. 145. Gesneraceæ secrete so large a quantity of honey that it is called *Liane à sirop* by the French colonists of— ? The stem of *Witsenia maura*, N. O. 236. Iridaceæ is said to abound in a rich saccharine juice. *Quercus mannifera*, N. O. 212. Corylaceæ is said to yield a Manna in Kurdistan. Briancon Manna is obtained from *Larix europæa*, De C. *Common Larch*, N. O. 220. Coniferæ. Cedar Manna occurs on *Cedrus Libani*, Barrel, *Cedar of Lebanon*, also a Conifer. Orcin Manna is found in various Lichenes, N. O. 273; and various Algæ, N. O. 276, as *Laminaria saccharina*, Ag., *Halidrys siliquosa*, and *Fucus vesiculosus*, Linn. contain a considerable per centage of Manna-like sugar. *Sukhur-ool-ashur*, the sugar of *Calotropis gigantea*, R. Brown, is probably of the nature of Manna. *Paullinia australis*, and *Serjania lethalis*, N. O. 48. Sapindaceæ, are supposed to furnish Lechequana honey, which is as dangerous in its effects as that mentioned by Xenophon. (Anab. lib. iv.) See under "Drugs," *Alhagi Maurorum*, *Abrus precatorius*, *Liquoritia officinalis*, and *Calotropis gigantea*.

N. O. 53. VITACEÆ. *VINEWORTS.*

Vitis vinifera. *W. Common Grape Vine.*

Linn. Syst. Pentandria Monogynia.

The sugar,—Grape Sugar.

Vernacular. The sugar,—*Dips*, *Dibs*, Syria, Egypt.

Habitat.

Remarks. "In Syria a sweet preparation is made from the juice of the grape. It consists chiefly of grape sugar, and is exported to Egypt under the name of *dips* or *dibs*."—"In Genesis xliii. v. 11, this word is translated *honey*, though the sweet of the grape is probably meant.

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Dibs is also the word used for Samson's honey (Judges xiv. 8), though *Assal* is the word now employed in Syria and Egypt to denote the honey of the bee." (Lewes in "The Chemistry of Common Life.") Raisins, figs, dates, and prunes, abounding in grape-sugar, may with propriety be classed amongst vegetable sugars; as also the pods of *Ceratonia Siliqua*, the Locust-tree of Europe; *Hymenæa Courbaril*, the West Indian Locust; and *Gleditschia triacantha*, the Honey Locust of North America. The pulp of the pod of *Cathartocarpus Fistula* is also sweet, but nauseous. These four trees are all Leguminous.

N. O. 135. SAPOTACEÆ. *SAPOTADS.*

Bassia latifolia. *Rox.* *Broad-leaved Bassia.*

Linn. Syst. Dodecandria Monogynia.

The Sugar obtained from the flower.

Vernacular. *Mudhooka, Madooka,* Sans. *Mahwa, Muhooa,* Beng. *Moula,* Beng. Hind. *Mowa, Mourah,* By. *Poounum,* Mal. *Caat-elloopei,* Tam. *Ipie,* Tel.

Habitat. East Indies.

Remarks. Sugar is also obtained from *Bassia butyracea,* Rox., in Rohilcund. (Simmonds.)

N.O. 251. PALMÆ. *PALMS.*

Borassus flabelliformis. *W.* *Fan-leaved Borassus, Palmyra.*

Linn. Syst. Diœcia Hexandria.

The Sugar prepared from the sap.

Vernacular. *Tala,* Sans. *Tal,* Beng. Hind. *Tar.* Dec. *Ampana, Carimpana,* Mal. *Panang-kulloo,* Tam. *Putoo-toadi, Tati-kulloo, Penty,* Tel. *Tal-gaha,* Cey. *Dom* (Forskal), *Tafi,* Arab. *Lontar,* Malaya.

Habitat. East Indies.

Remarks. See "Fruits and Vegetables," and "Narcotics."

Caryota urens. *W.* *Four-leaved Caryota.*

Linn. Syst. Monœcia Polyandria.

The Sugar prepared from the sap.

Vernacular. *Bheerlee-mahr,* By. *Erimpana, Schunda-pana,* Mal. *Coonda-panna,* Tam. *Teerooga,* Tel. *Kitul,* Cey.

Habitat. East Indies.

Remarks. See "Narcotics" and "Starches."

Cocos nucifera. *W.* *Common Cocoanut.*

Linn. Syst. Monœcia Hexandria.

The Sugar prepared from the sap.

Vernacular. *Narikela,* Sans. *Narikel,* Beng. *Narel,* Hind. *Tenga,* Mal. *Taynga,* Tam. *Tenkaia, Narikadam, Kobbari,* Tel. *Pol, Nawasi, Tœmbili,* Cey. *Jowz-hindee, Nardjil,* Arab. *Nur,* Malaya. *Kalapa,* Java.

Habitat. East Indies.

Remarks. See "Fruits and Vegetables."

Phœnix sylvestris. *Rox.* *Wood, Date Palm.*

Linn. Syst. Diœcia Triandria.

The Sugar prepared from the sap.

Vernacular. *Khurjjooree,* Sans. *Sendhi, Kajar,* Hind. *Eetchum-pannay,* Tam. *Eeta,* Tel.

Habitat. East Indies.

Remarks. This is said to be the largest sugar produce of all the Palms; the sugar of Palms, or *Jaggery,* as it is called in India, being prepared by boiling down the sap. *Phœnix dactylifera,* Linn. is said also to yield sugar. The other sacchariferous Palms are *Arenga saccharifera,* Labill. of the Eastern Archipelago, and *Nipa fruticans,* Thunb. of the shores of the Indian Ocean.

N. O. 266. GRAMINACEÆ. *GRASSES.*

Saccharum officinarum. *Linn.* *Common Sugar-Cane.*

Linn. Syst. Triandria Digynia.

The prepared juice,—Sugar.

Vernacular. The plant,—*Ikshu, Pundru, Rusala,* Sans. *Ik, Akh, Ookh, Ukyo,* Beng. *Ganna, Khulooa, Kajooli, Ich, Ŭch,* Hind. *Oos,* Dec. *Karimba,* Mal. *Karoomboo,* Tam. *Cherukoo-bodi, Cherukoobuboo,* Tel. *Kusseb-us-sookir,* Arab. *Nie-shukhir,* Pers. *Tâbu,* Malaya. *Tuvo,* Borneo. *Tau,* Floris. Tonga. *To,* Tahiti, Marquesas. *Ko,* Sandwich Isles. Jaggary,—*Ghudham, Gura, Guda,* Sans. *Goor,* Dec. *Vellum* Tam. *Kund,* Arab. Sugar,—*Sakkara,* Sans. *Chenee,* Hind. *Shukhir,* Dec. *Sukkarei,* Tam. *Panchadara,* Tel. *Shukhir,* Pers. Arab. *Tub-ir-zud* (Sugar Candy), Arab. *Gula, Sakara, Kara, Gândis,* Java.

Habitat. Cultivated in both Indies.

Remarks. Four varieties of *Common Sugar-Cane* are recognised by Kunth, viz. :—

α. *commune.* *Poori,* Beng. ; and Creole, or Native Cane of West Indies.

β. *purpureum.* *Kajooli,* Beng.

γ. *giganteum.* *Kulloоa,* Beng.

δ. *tahitense.* Otaheite Cane.

Two other species are also admitted, viz. :—

S. violaceum, Tussac, said to be identical with the Otaheite Cane.

S. sinense. Rox. Cultivated in China.

Cane-sugar cannot be proved to have been known to the ancients. According to Sprengel the cane is first mentioned by Abulfaidil, and sugar by Moses Chorenensis. The Venetians imported Indian sugar by way of the Red Sea into Europe prior to A.D. 1148, and the plant was probably introduced into Rhodes, Crete, Cyprus, and Sicily by the Saracens. In the 15th century it was introduced to the Canaries by the Spaniards, and to Madeira by the Portuguese, whence it was carried to the West Indies and Brazils. The manufacture of sugar in the new world commenced during the 17th century.

Cane-sugar may be crystallized or amorphous. White-, Brown-, and Pink- or Rose-Candy : and White, and Brown Sugar are examples of the first, and Barley-sugar of the second. Muscovado, or Raw-sugar, is a mixture of crystalline and amorphous sugar. Molasses (from *mel,* honey) is the drainings of Muscovado ; Treacle (*Theriaca, Fæx Sacchari,* Pharm., Loud.) "is the viscid, dark brown, uncrystallizable syrup which drains from refined sugar in the sugar moulds ;" Caramel is burnt sugar, and an article well known to Parsee Wine-dealers.

Andropogon saccharatus, Rox. (*Sorghum saccharatum,* Pers. *Holcus saccharatus,* Linn. and perhaps *Andropogon caffrorum,* Kunth), is the "Broom corn" of America, and *Sorgho-sucre* of the French. It is simply the *Shaloo* of the Deccan, and *Deodhan* of Hindoostan, but has become very valuable in other countries as a source of sugar. A cane called *Imphee* has been experimentally cultivated with indifferent success in Western India for some years past on account of the sugar which it yields, and it is said to be *Andropogon saccharatus,* Rox. The plant known at the Cape of Good Hope as *Imphee,* has not however a black grain, like the so-called *Imphee* cultivated in this government ; and I believe this so-called *Imphee* not to be the plant of the Caffres, but that introduced into England from China. This may account for the indifferent success of its cultivation here, for *primâ facie* a Cape variety of a sugar yielding *Andropogon,* would be more likely to bear out its local reputation in Western India than a Chinese, for both the Chinese and Cape plants are probably but varieties of Roxburgh's plant. The "Maple Sugar" of North America is prepared from the juice of *Acer saccharinum,* W.

A. dasycarpum, W. and other species, N. O. 47. Aceraceæ. In North America sugar is also obtained from *Betula nigra,* and *B. lenta,* N. O. 211. Betulaceæ. "Beetroot Sugar" is prepared from *Beta vulgaris,* W. and (?) *B. Cicla,* W. N. O. 171. Chenopodiaceæ. *Sambucus nigra,* W. The *Common Elder*, N. O. 114. Caprifoliaceæ, yields a sugar, but at present of no economic value. Sugar is also now prepared from Potatoes, and might be theoretically from any starchy vegetable. Honey is essentially a vegetable sugar, but will be catalogued under animal products.

The following is a list of the Sweet-meats (*Meethayee*) sold in the Bazar of Bombay :—

MORE OR LESS CIRCULAR IN SHAPE.

Jelabee. Sugar, *ghee,* and wheat-flour, mixed, melted, and formed into an irregular webb, by being poured out of a spoon having a hole at the bottom, and moved in a circular way.

Sutur-phunee, or *Tar-phunee.* The same constituents, mixed, melted, drawn into fine filaments and felted, as it were, together.

Mal-pooree. The same, but resembling small pancakes.

Reevudee. Lozenges of sugar, covered with *til* seed (Sesamum).

Burra-buttasa and *Chota-buttasa.* Cakes of sugar,—white and brittle.

Annarsa. Sugar-cakes covered with *Cus-cus* (Poppy-seed).

Nunkatai. Rich cakes of flour, sugar, almonds, with cardamoms and other spices, made by the Mahomedans, and chiefly imported from Surat.

Khaja. *Ghee* and fine flour.

MORE OF LESS QUADRILATERAL OR CUBICAL.

Burphee-saddee. Milk and sugar.

Burphee-masalakee. The same with the addition of *Pista* (Pistachio-nuts), *Chirongee* (the kernels of *Buchanania latifolia,* Rox.), and spices.

Budamee-hulwa-vola. Wheat flour and sugar paste, with almonds scattered over the surface.

Budamee-hulwa-sooka. The same dried.

Budamee-hulwa-musalaka. The same with the addition of spices.

Dewka-hulwa. Thin slices of *Budamee-hulwa.*

Goor-danee. Earth-nuts embedded in *Goor* (raw-sugar) and baked.

Mesoor. Gram embedded in sugar.

Narlee-pakh. Cocoanut and sugar.

Doodee-ke-hulwa. Sugar, gourd in slices, and spices.

MORE OR LESS GLOBULAR.

Dood-pedda. Sugar boiled with milk.

Dood-pedda-musalika. The same with cardamoms, nutmeg, and mace.

Motee-choor-ludoo. Balls of sugar, wheat, and gram flour.

Dulya-ludoo. The same made finer.

Bessun-ke-ludoo. Sugar and gram flour only.

Moong-ke-ludoo. *Moong* flour (*Phaseolus Mungo*).

Choorma-ludoo. Wheat flour.

Oodit-ke-ludoo. Oorud flour (Phaseolus Mungo, var.).

Methee-ludoo. Fenugreek.

Masaleka-ludoo. Any of above Ludoos with spices.

Buttasa-ludoo. *Buttasa* (see above) in balls.

MORE OR LESS CYLINDRICAL.

Gugun-gantee. Little cylinders, flour within and sugar without.

Goolabee-jamb. Sugar and flour.

Goolab-cheeree or *Sucker-ke-cheeree.* Sugar and flour, in long sticks, hooked at one end.

AMORPHOUS.

Gool-kund. A conserve of rose flowers, almonds, sugar-candy, with cardamoms and rose-water.

Hulwa is imported into Bombay, in saucers, from Muscat.

Sheera. Lumps of sugar, wheat flour, and ghee, with a few almonds, being indeed amorphous *Hulwa*.

Mawa. Milk and sugar boiled, being amorphous *Dood-pedda*.

IRREGULAR.

Kullee-ke-ludoo. Soft comfits of sugar and gram and wheat flour, being the elements of the balls called *Ludoo*.

Boondhee-ke-ludoo. The same, but rounder.

Mawa-ke-kuringee. A paste of milk and sugar with spices and *pistachio-nuts*, formed into a small pasty shape, covered with sugar, and baked.

Kurinja. A small pasty, containing a mixture of cocoa-nut, sugar, *Cus-cus* (Poppy seed), and spices.

Sakur-chuna. Gram comfits.

Yelchee-dana. Cardamom comfits.

Kajoo-gola, or *Suckur-ka-kajoo.* *Cashew-nut* comfits.

Til-dana, or *Suckur-ke-Til.* Comfits, used on the *Sunkrat* holiday.

Suckur-ka-khel. Sugar toys, used in the Dewalee holidays.

Har-gantee. Sugar necklace, made in the Holee holidays.

Thooguree. Comfits of sugar, ghee, and flour.

Chuna-papudee. Split gram and sugar.

Singer. *Khaja* (see above) shaped like a pasty, and baked.

DIVISION I.

Class 4. A.

GUMS AND GUM-RESINS.

N. O. 4. ANNONACEÆ. *ANONADS.*

Annona squamosa. *Linn. Sweet Sop.*

Linn. Syst. Polyandria Polygynia.

Vernacular. See "Fruits and Vegetables."

Habitat. South America. Extensively cultivated throughout the East.

Remarks. See "Drugs." This is one of the trees on which LAC is found, having been first noticed on it by Dr. Carter, who first fully and accurately described and figured the insect (*Coccus Lacca*), the punctures of which cause the exudation of this substance.

The other trees on which LAC is found are:—

Vatica laccifera, N. O. 34.
Feronia eliphantum, N. O. 40.
Vismia laccifera?
Vismia micrantha? } N. O. 41.
Schleichera trijuga, N. O. 48.
Zizyphus Jujuba, N. O. 70.
Butea frondosa,
Erythrina indica,
Erythrina monosperma, } N. O. 74.
Inga dulcis,
Mimosa cinerea,
Carissa spinarum, N. O. 141.
Aleurites laccifera,
Croton Draco? } N. O. 195.
Croton sanguiferum,
Urostigma religiosum, N. O. 200.
Celtis sp. N. O. 201. Ulmaceæ.

The Vernacular names for LAC are *Laksha*, Sans. *Lakh*, Hind. Guz. *Komburruki*, Tam. *Commoleka*, Tel. *Lakada*, Cey. *Khejijk*, Burmah. *Balo*, Java. *Ambalau*, Malaya. In a note on Roxburgh's paper, "On the Lácshà, or Lac insect" (Asiatic Researches, Vol. ii. Lond. 1799), Sir W. Jones observes,—"The *Hindus* have six names for LAC; but they generally call it *Lácshà*, from the *multitude* of small insects, who, as they believe, discharge it from their stomachs, and at length destroy the tree on which they form their colonies. A fine *Pippala*, near *Crishnagar*, is now almost wholly destroyed by them."

Dr. Carter's papers on the *Coccus Lacca* are contained in Vol. vii. Nos. 37 and 41 of "The Annals and Magazine of Natural History."

The ancients were unacquainted with Lac, unless they included it under the substance called καγκάμον by Dioscorides, but which was probably the oleo-resin of the bazars called *Decamallee*. *Vide* N. O. 115 *infra*. At least the ancients did not use sealing-wax; and as the Hindoos still seal their kinkob letter bags *(kharita)* in the manner in which the Greeks and Romans fastened their letters with "sealed earth," it may be conjectured that they learnt the use of Lac from the Arabs. The "Indian Wax" of old writers is red sealing-wax.

In commerce LAC, gathered with the twigs on which it is formed, is called STICK-LAC; the resin removed, and its calouring matter washed out, is SEED-LAC; this melted in masses is LUMP-LAC; or melted, strained, and run into thin layers, SHELL-LAC. LACQUER is a varnish of LAC. The Lac-work of Hydrabad, in the Deccan, is celebrated. See "Dyes." Crawfurd states that there is a dye on Sumatra called *Laka*, the wood of the tree named *Tanarius major* by Rumphius (Amb. lib. v. ch. 38, tab. 122), but I am unable to identify it with any species recognised by botanists; Blume (Rumphia) gives two species of *Myristica* with the vernacular name of *Lakha*.

N. O. 18. FLACOURTIACEÆ. *Lætia apetata* secretes, in tropical America, a balsamic resin, becoming white in contact with air, like Sandarach.

N. O. 19. CISTACEÆ. *ROCK-ROSES.*

Cochlospermum Gossypium. *De C.* *Golden Silk-Cotton Tree.*

Linn. Syst. Polyandria Monogynia.

Vernacular. The gum,—*Kuteera*, Hind.

Habitat. Travancore, Coromandel, Hurdwar, Arracan.

Remarks. See "Drugs." GUM-KUTEERA of commerce is the product also of *Eriodendron anfractuosum*, Linn. and *Sterculia urens*, Rox. N. O. 31. It is often substituted for Tragacanth. LADANUM is the resinous exudation from *Cistus creticus*, *C. ladaniferus* and other Rock-Rose of that genus. It is described by Herodotus (bk. iii. ch. 112), and is said to be sold in the Surat bazar.

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N. O. 31. STERCULIACEÆ. *STERCULIADS.*

Eriodendron anfractuosum *De C. White Silk-Cotton Tree.*

Linn. Syst. Monadelphia Polyandria.

Vernacular. The gum,—*Huttian-ke-gond,* Hind.

Habitat. Khandeish, Travancore, and Coromandel.

Remarks. See "Drugs," and "N. O. 19," above; *Sterculia urens,* below.

Salmalia malabarica. *S. et E. Red Silk-Cotton Tree.*

Linn. Syst. Monadelphia Polyandria.

Vernacular. The gum,—*Mochurrus*? Vulg.

Habitat. Concans, Malabar, Courtallum.

Remarks. See "Drugs." The MOCHURRUS of the bazars, is a gall from *Areca Catechu.* Some kinds of *Mochurrus* appear to be the gum of *Moringa pterygosperma,* Gært., and I have never been able to obtain any gum from the *Red Silk-Cotton Tree.*

Sterculia urens. *Rox.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. See "Drugs."

Habitat. Concans, Courtallum.

Remarks. The gum of this tree forms a portion of GUM KŪTEERA. See "N. O. 19," and *Eriodendron anfractuosum,* above. *S. Tragacantha,* yields the Tragacanth of Sierra-Leone. For true Tragacanth, see "N. O. 74," below.

N. O. 34. DIPTEROCARPACEÆ. *DIPTERADS.*

Dipterocarpus turbinatus. *Rox.*
Dipterocarpus costatus. *Gært.*
Dipterocarpus incanus. *Rox.*
Dipterocarpus alatus. *Rox.*

Linn. Syst. Polyandria Monogynia.

Vernacular. **D. turbinatus,** *Shweta-gurjan,* Beng. *Hora-gaha,* Cey. **D. costatus,** *Teeliagurjun,* Beng. **D. incanus,** *Gurjun,* Beng. The oleo-resin,—*Gurjuntel,* India. *Dhoonatil,* Cey.

Habitat. *D. turbinatus,* India, within and beyond the Ganges. *D. costatus* and *D. incanus,* Chittagong. *D. alatus,* Mascal Island and the neighbouring coast.

Remarks. This oleo-resin is the WOOD-OIL of commerce. *Dipterocarpus trinervis,* Blume, of Java, yields a resin substituted like WOOD-OIL for Copaiva Balsam.

Shorea robusta. *Gært.*

Shorea Tumbugaia. *Rox.*

Linn. Syst. Polyandria Monogynia.

Vernacular. **S. robusta,** *Sala, Ushwukurnika,* Sans. *Sal,* Beng. Hind. *Saj,* Beng. (Arab. by Ainslie). *Eing-gyeen,* Burmah, **S. Tumbugaia,** *Tambugai,* Tam.

Habitat. *S. robusta,* Hindoostan. *S. Tumbugaia,* Palghat.

Remarks. The resin of these trees (the latter is the *Vatica Tumbugaia* of W. et A.) constitutes one of the kinds of DAMMAR met with in India. It is amber-coloured like the resin (PINEY DAMMAR, WHITE DAMMAR OF MALABAR, INDIAN COPAL, (Indian) GUM ANIME) of *Vateria indica* of the present order, but very brittle instead of very tough, as the latter. WHITE DAMMAR of Singapore is the product of *Dammara orientalis,* N. O. 220. Pinaceæ, *D. australis* being the source of COWDIE or KAURIE GUM, AUSTRALIAN DAMMAR, AUSTRALIAN COPAL of New Zealand. BLACK DAMMAR OF MALABAR is obtained from *Canarium strictum,* N. O. 72, below. RAL and DHOONA are given in books as Indian names of the resin of *S. robusta,* but *Ral* is a common name for all resin-like substances, and the *Ral* imported from the Punjab is not similar to the DAMMAR of *Shorea robusta.* The term *Dammar* is in Bombay also applied to PITCH.

Vateria indica. *Gært.*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Peinimarum, Vella-koodricum,* Mal. *Velli-koondricum, Koondricum,* Tam. *Dupadamara,* Tel.

Habitat. Malabar, Travancore.

Remarks. This is the *Elæocarpus copaliferus* of Retz, *Pænæ* of Rheede (Hort. Mal. iv. t. 15), and *Chloroxylon Dupada* of Buchanan. The resin, when recent and soft, is called PINEY VARNISH ; when hardened, INDIAN COPAL, (Indian) GUM ANIME, and PINEY DAMMAR. For true Copal and Gum Anime, see below "N. Os. 71 and 74." The information in regard to Indian Dammars is very confused, and hence above I have avoided all synonymes but such as appear undoubted. What is known as the *Piney-tree* is the *Calophyllum angustifolium,* N. O. 42. Guttiferæ, of botanists. *Vateria lanceæfolia,* Rox. the *Moal* of Silhet "exudes a clear liquid, which soon hardens into a very pure amber-coloured resin, from which the natives obtain, by distillation, a dark-coloured, thick, strong-smelling balsam, called choa or chova, by the people who sell it ; and *Goond* by the Brahmins, who use it in their religious ceremonies and temples." *Vatica laccifera,* W. et A. (*Shorea Talura,* Rox.) of the Deccan, has already been referred to under N. O. 4.

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Feronia elephantum. *C. de S.* *Indian Elephant Apple.*

Linn. Syst. Decandria Monogynia.

Vernacular. See "Drugs."

Habitat. India.

Remarks. The gum forms a part of the GUM-GATTIE and EAST INDIA GUM (Arabic) of commerce, the rest being made up of the gum of *Azadirachta indica,* N. O. 50; the gum(-resin ?) of *Mangifera indica,* N. O. 71; and gum of *Acacia arabica, A. Lebbek, A. odoratissima, A. Catechu,* and *Vachellia Farnesiana,* N. O. 74, and of *Terminalia bellerica,* N. O. 81, see below. *Ægle Marmelos,* C. de S. of the present order probably also contributes a portion. It is stated in the "Reports of the Juries" on the Exhibition of 1861, that the gum of Coimbatore is a mixture of 24 gums and resins. Of N. O. 41. Hypericaceæ, *Vismia micrantha,* and *V. laccifera,* have been referred to under N. O. 4. *V. guianensis* of Mexico and Surinam yields AMERICAN GUMMI GUTTÆ of commerce.

N. O. 42. GUTTIFERÆ. *GUTTIFERS.*

Calophyllum inophyllum. *Linn.* *Sweet-scented Calophyllum.*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Poonaga* ? Sans. *Sultanchampa, Surpunka,* Hind. *Surpunka, Oondee,* Dec. *Poona,* Mal. *Pinnay,* Tam. *Poonagamu,* Tel. *Teldomba,* Cey.

Habitat. Malabar, Deccan.

Remarks. See "Drugs." It is stated in books of authority, that "a resin exudes from the roots" of this plant, and that it is the TACAMAHACA of the Isle of Bourbon. "The true EAST INDIAN TACAMAHACA is produced by *C. Calaba,* and MYANAS RESIN is referred to the same species." (Lindley.) Linnæus erroneously referred Tacamahaca to *Populus balsamifera,* N. O. 209. Salicaceæ. *Elaphrium tomentosum* and *Canarium commune,* both of N. O. 72. Amyridaceæ, are said to yield some of this resin. GAMBOGE, GUMMI GUTTÆ, is the gum-resin of *Hebradendron cambogioides,* Graham, of Siam. *Moronobea coccinea* yields the "MANI or OANANI Gum of Brazil." "BALSAM OF MARIA comes from *Verticillaria acuminata.*" The stamens and disk of *Clusia insignis* weep so much oleo-resin that Von Martius collected an ounce from two flowers !

N. O. 48. SAPINDACEÆ. *SOAPWORTS.*

Schleichera trijuga. *W. et A.*

Linn. Syst. Octandria Monogynia.

Vernacular. *Koosum,* By. *Poomarum,* Tam. *May, Roatangha,* Tel. *Kunghas* (Peddington), *Æmbul-kon,* Cey.

Habitat. Coromandel, Malabar.

Remarks. One source of LAC, see "N. O. 4," and "Woods," *Koosumba* is the name also of the dye Safflower, *Carthamus tinclorius,* N. O. 120.

N. O. 50. MELIACEÆ. *MELIADS.*

Azadirachta indica. *A. de Juss. Ash-leaved Bead Tree.*

Linn. Syst. Monadelphia Decandria.

Vernacular. *Nimba,* Sans. *Nim, Arishto,* Hind. *Neem,* Dec. *Bewa,* Can. *Ariabepou,* Mal. *Veypam,* Tam. *Vepa, Vaympa,* Tel. *Tel-kohomba,* Cey. *Thembau-kamakah,* Pegu.

Habitat. India.

Remarks. See "Drugs." The gum forms a portion of GUM-GATTIE and EAST INDIA GUM, see "N. O. 40," above. Of N. O. 51. Humiriaceæ, "*Humirium floribundum,* when the trunk is wounded, yields a fragrant liquid yellow balsam, called BALSAM OF UMIRI, resembling the properties of Copaiva and Balsam of Peru." The juice of *Humirium balsamiferum* smells of Storax. Both are natives of tropical America.

N. O. 52. CEDRELACEÆ. *CEDRELADS.*

Swietenia Mahagoni. *W. Common Mahogany.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Mahagoni,* By.

Habitat. West Indies. Flourishes in Bombay, at the Sewrie Gardens.

Remarks. This tree in Bombay yields a beautiful silvery gum in great abundance. GUAIACUM RESIN is yielded by *Guaiacam officinale,* Linn. N. O. 62. Zygophyllaceæ.

N. O. 70. RHAMNACEÆ. *RHAMNADS.*

Zizyphus Jujuba. *Lam. Blunt-leaved Zizyphus.*

Linn. Syst. Pentandria Monogynia.

Vernacular. See "Drugs."

Habitat. North Africa, Arabia, India.

Remarks. See "Drugs" and "Non-narcotic Drinks." LAC is produced on this tree as noted under N. O. 4, above; it is said to produce a portion of GUM GATTIE also.

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N. O. 71. ANACARDIACEÆ. *ANACARDS or TEREBINTHS.*

Anacardium occidentale. *W. Cashew.*

Vernacular. *Beejara-sala*, Sans. *Hijilee-badam*, Beng. *Gajoo*, Dec. *Parunkimanvah*, *Peiteira-manjo*, Mal. *Moondri*, Tam. *Jidimemidi*, *Muntamamedi*, Tel. *Watu-caju*, Cey. *Cadju*, Malaya. *Jambo-eerong*, Sumatra.

Habitat. South America. Naturalized in Malabar, Coromandel, Chittagong, Trichinopoly.

Remarks. See "Fruits and Vegetables." This tree yields a gum (-resin?) in great abundance, and the pericarp contains an acrid resinous juice.

Mangifera indica. *Linn. Common Mango.*

Linn. Syst. Polygamia Monœcia.

Vernacular. See "Fruits and Vegetables."

Habitat. East Indies.

Remarks. Yields a gum(-resin?) in great abundance.

Semecarpus Anacardium. *Linn. Marking Nut.*

Linn. Syst. Polygamia Diœcia.

Vernacular. *Nrooskura*, *Bullatakee*, Sans. *Bhela*, *Belawina*, *Bhelaman*, *Bhelawan*, Hind. *Biboo*, By. *Gheru*, Can. *Kampira*, Mal. *Shayngcottay*, Tam. *Nellajidi*, *Jeedighenzadoo*, *Bhallataki*, *Bhallatamu*, *Tummedæ-mamidi*, Tel. *Kiri-badulla*, Cey. *Chaibin*, Pegu.

Remarks. See "Fruits and Vegetables." The pericarp yields a resinous juice, the BLACK VARNISH OF SYLHET. The following Terebinths also supply resinous exudations and juices :—

Augia chinensis, produces a varnish in China and Siam.

Buchanania latifolia, of India, is said to yield a varnish.

Duvaua latifolia, abounds in resin.

Holigarna longifolia, BLACK VARNISH of Malabar.

Melanorrhœa usitatissima, THEETSEE KHEN, or MARTABAN VARNISH.

Odina Wodier, of India, yields a varnish.

Pistacia atlantica, } MASTIC.
Pistacia Lentiscus, }

Pistacia cabulica, } yield a resin in Sindh, similar to Mastic.
Pistacia Khinjuk, }

Pistacia vera, AKLOOK-UL-IMBAT.

Rhus Apape, of Australasia, yields a gum resin.

Rhus copallina, is said to yield COPAL. See "N. O. 74."

Rhus Metopium, HOG-GUM (perhaps also includes DOCTOR'S-GUM) of Jamaica.

Rhus vernix, yields a black varnish in Japan.

Rhus succedaneum, } yield a similar varnish.
Rhus verniciferum, }

Schinus Molle, abounds with resin.

Stagmaria verniciflua, JAPAN LACQUER.

N. O. 72. AMYRIDACEÆ. *AMYRIDS.*

Balsamodendron roxburghii. *Arn.*

Linn. Syst. Octandria Monogynia.

Vernacular. *Googul*, Beng. By. *Kookul*, Tam. *Mukul*, Arab. Pers. *Roghen-toorb*, *Aflatoon*, Pers. *Moolie-ke-teil*,—a Hindee synonyme in the Ulfaz Udwiyeh, where *Budleeyoon* is given as a Syrian name.

Habitat. Northern India, Silhet, Assam, Sindh, Deccan?

Remarks. Yields the gum-resin (Indian) BDELLIUM. See "Drugs." Stocks describes two species in Sindh, *B. pubescens* and *B. roxburghii;* the latter however having been wrongly so named by him, and now known as *B. Mukul*, Hooker. Arnot's plant is Roxburgh's *Amyris Agallocha* and *A. commiphora*, and is identical probably with *Commiphora madagascariensis*. *Balsamodendron Myrrha*, Nees ab Esen. yields MYRRH (see "Drugs"): and *B. Opobalsamum*, Kunth *(B. gileadense*, Kunth), OPOBALSAMUM, OR BALM OF GILEAD. This plant is the *Amyris Opobalsamum*, Linn. De Candolle's *B. gileadense* is different, being the same as *Protium gileadense*, W. et A. *Amyris gileadensis*, Rox. and *B. berryi*, Arn. See "Drugs."

Boswellia glabra. *Rox.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Koonthrekum*, Mal. *Koondricum*, Tam. *Googola*, Tel.

Habitat. Coromandel.

Remarks. Yields GOONDRICUM, and no doubt a portion of (Indian) Olibanum. It is now called *Pimela glabra*, Blume.

Boswellia thurifera. *Colebrooke.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Sallaci*, *Sillaci*, *Cunduruci*, *Amduri*, *Surabhi*, *Suvana*, Sans. *Salai*, *Sale*, *Sila*, *Sala*, *Sajuvan*, *Gundabarosa*, *Dhoop*, *Esus, Luban,* Hind. *Koondur-zuchir,* Guz. *Awul-goondur,* Dec. *Paranghi-sambrani,* Tam. *Luban, Cundur, Bistuj,* Arab. *Luban, Koonder, Labanuja,* Syr.

Habitat. Coromandel.

Remarks. The source of (Indian) OLIBANUM. As under *B. papyrifera,* Hoch. in the class "Drugs" the Indian synonymes were included, so here I have included the Arabian, Persian, and Syrian, although Indian Olibanum is not known there, and my procedure in regard to the *trees* is perhaps objectionable. In the first edition I adopted *B. papyrifera* as the source of the OLIBANUM of commerce, but suggested that other African and Arabian Boswellias might contribute to it, and referred to the inquiries I had set on foot to determine the question, Captain Playfair has taken the greatest pains to obtain all the Olibanum trees to be found in the Soumali country, and through his exertions the following results have been so far reached. There are three trees in the Soumali country :—

1st *Yegaar,* yielding the *Luban Maitee,* of the Arabs,
2nd *Mohr Add,*
3rd *Mohr Madow,*

both yielding the *Luban Sheheri* of the Arabs, "possibly," writes Captain Playfair, "because it is principally taken to the Shehr and Makulla market from the African coast."

Each of these, so far as can be judged from the leaves, is distinct from the plant described and figured by Carter, Vol. ii. of the Journal of the Bombay Branch of the Royal Asiatic Society, as *B. thurifera* (?), and afterwards identified by Stocks with *B. papyrifera.* No plant amongst those sent by Captain Playfair being like his plant, which moreover he found in Arabia, Dr. Carter began to doubt Stock's reference, and expressed the opinion that *Mohr Madow* would prove to be Hochstetter's plant. There can be little doubt of this, judging from the leaves. There are, then, three known African Olibanum trees.

Boswellia papyrifera, or *Mohr Madow,*
——— ——— ? or *Mohr Add,*
——— ——— ? or *Yegaar ;*

and one Arabian described in 1847 by Carter, but not yet named. Captain Playfair says there are other species in Africa, but he has never been able to get at them. Dr. Vaughan, Vol. xii. No. v. of the Pharmaceutical Journal, states *Luban Shaharree* (or *Morbat*) to be the name of *Arabian* Olibanum, which disagrees with what Captain Playfair says of *Luban Sheheri ;* but as in a subsequent reprint of Dr. Vaughan's paper, no Arabic name for ARABIAN OLIBANUM (see class "Drugs") is given, the reference first made may be assumed perhaps as having proved untenable. The Museum is very rich in its collection of Olibanum. *B. thurifera* is Roxburgh's *B. serrata.* Manna of Frankincense is refuse Frankincense.

Canarium strictum. *Rox.*

Linn. Syst. Polygamia Diœcia.

Vernacular. *Dhoop, Googul,* Bhore Ghaut. *Thelly,* Mal. *Congilium,* Tam.

Habitat. Malabar, Tinnevelly.

Remarks. Yields BLACK DAMMAR OF MALABAR. When fresh the resin is aromatic and yellow in colour. The following Amyrids also yield resinous exudations and juices :—

Balsamodendron africanum, (African) BDELLIUM.

Amyris hexandra,
Amyris plumieri of the Antilles, } Sources of ELEMI.

Bursera acuminata, of Caracas, RESIN OF CARANA.

Bursera gummifera, of the West Indies, CHIBOU, or CACHIBOU. Linn.

Canarium commune, (*C. zephrynum,* Rumphius, *Bursera paniculata,* Lam. *Amyris zeylanica,* Retz. *Balsamodendron zeylanicum,* Kunth. *Colophonia mauritiana,* De C.) of the Isle of France, yields a portion of TACAMAHACA (and it is said of ELEMI (Manilla) also). See N. 42.

Commiphora madagascariensis is probably identical with *Balsamodendron roxburghii,* above detailed.

Elaphrium elemiferum, Mexican ELEMI.

Elaphrium tomentosum, yields a portion of TACAMAHCA.

Icica ambrosiaca, RESIN OF COUMIA.

Icica Aracouchini, BALSAM OF ACOUCHI.

Icica Carana, AMERICAN BALM OF GILEAD.

Icica Icicariba (included by Linnæus with *Amyris plumieri,* under his *Amyris Elemifera*) yields a portion of (American) ELEMI.

Hedwigia balsamifera, BEAUME À COCHON, or BEAUME À SUCRIER.

ELEMI is thus derived from *Amyris hexandra, A. plumieri, Canarium commune* ? *Elaphrium elemiferum,* and *Icica Icicariba.* Pereira states, also, "I have received from Dr. Christison a specimen of the resin of *Canarium balsamiferum* of Ceylon, which, in odour and general appearance, strongly resembles elemi." If Willdenow's plant is meant, this is our *Boswellia glabra,* Rox. or *Pimela glabra,* Blume, above detailed. What is the source of (African) ELMI ?

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Acacia arabica. *Will. Gum-Arabic Tree.*

Linn. Syst. Polygamia Monœcia.

Vernacular. See "Drugs."

Habitat. India, Arabia, Egypt, Senegal.

Remarks. GUM ARABIC (*κόμμι* of Hippocrates) is obtained from various species of *Acacia,* the best TURKEY-GUM being from *A. arabica* and *A. vera,* Will. GUM-SENEGAL is from *A. vera, A. Seyal,* Delile, and *A. senegal.* CAPE-GUM from *A. Karoo,* Hayne, which also yields MOROCCO or BARBARY GUM. BEDOUIN GUM is from *A. tortilis,* Forsk. and *A. ehrenberghii,* Hayne. *Acacia arabica* yields also an inferior GUM ARABIC, called EAST INDIAN GUM, which, if the same as the GUM GATTIE of the bazar, is a mixture of Babool gum, with the gummy and gum-resinous (?) exudations of several trees, as *Feronia elephantum,* N. O. 40, *Azadirachta indica,* N. O. 50, *Mangifera indica,* N. O. 71, and *Acacia Catechu, Vachellia Farnesiana, Acacia Lebbek, A. odoratissima,* and *Cassia auriculata* of the present order, *Conocarpus latifolia* and *Terminalia bellerica,* N. O. 81, and probably many other trees. Not having any authenticated gum of the four last, they will not be here detailed. Some have already appeared under "Drugs," and nearly all will be detailed under "Woods." A resinous extract is prepared from the pods of *A. arabica,* and sold in the bazar under the name of AKAKIA. GUM-BUSSORA, and also GUM-SASSA or OPOCALPASUM are also probably yielded by species of *Acacia.*

Acacia Catechu. *Will. Medicinal Acacia.*

Linn. Syst. Polygamia Monœcia.

Vernacular. See "Drugs."

Habitat. The East and West Indies.

Remarks. See "Drugs," and *A. arabica,* above.

Butea frondosa. *Rox. Downy-branch Butea.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Palasa, Kinouka, Kinsuka,* Sans. *Kuenee,* Hind, *Palas,* Dec. Hind. *Dhak,* Beng. *Pallus-kakria,* By. *Palassie,* Mal. *Parassum,* Tam. *Moduga,* Tel. *Gas-kæla,* Cey. *Poukbin,* Pegu.

Habitat. India.

Remarks. See "Drugs." With *B. superba,* yields GUM-BUTEA, a variety of KINO which is produced also by *Pterocarpus marsupium,* Rox. (*v. infra*), (and *Dalbergia oogeinensis,* Rox.) in India, and by *P. erinaceus* in Gambia and Senegal. BOTANY BAY KINO is the produce of *Eucalyptus resinifera,* N. O. 85. Myrtaceæ, *Syzygium Jambolanum* of the same order, and *Agati grandiflora,* N. O. 74, both of this country, also yield a Kino-like exudation. In the West Indies *Coccoloba uvifera,* N. O. 176. Polygonaceæ, furnishes a similar juice. *Pterocarpus Draco* furnishes the DRAGON'S BLOOD of Socotra, and the Spanish main; that of the Canary

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Islands being obtained from *Dracæna Draco*, N. O. 242. Liliaceæ, and of the Indian Archipelago from *Calamus Draco*, N. O. 251. Palmæ. A species of *Myristica* (N. O. 180), the *Dungan* of the Philippines, "yields a crimson juice which is collected from incisions in the trunk, and used as a substitute for DRAGON'S BLOOD." (Lindley.) "The *Dalbergia monetaria* of Linnæus (N. O. 74), yields a resin very similar to DRAGON'S BLOOD." (Lindley.)

Poinciana regia. *Boj.* *Royal Poinciana.*

Linn. Syst. Decandria Monogynia.

Vernacular.

Habitat. Madagascar.

Remarks. This flourishes luxuriantly in Bombay, and yields gum abundantly.

Pterocarpus marsupium. *Rox.* *Emarginate-leaved*, or *Indian Kino Tree.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Peet-shola*, Hind. *Bibla*, *Bewa*, *Bia*, Dec. *Hoonee*, Southern Mahratta Country. *Karinthagara*, Mal. *Yeanga*, Tam. *Vegisa*, *Egisa*, Tel. *Gan-malu*, Cey.

Habitat. Malabar.

Remarks. Yields MALABAR KINO. See "Drugs," and *Butea frondosa*, above. The following Leguminosæ also yield gummy or resinous exudations :—

Astragalus verus, Asia Minor, Persia,
Astragalus creticus, Mount Ida,
Astragalus aristatus (τραγάκανθα, Dioscorides), Greece,
Astragalus gummifer, Lebanon Koordistan,
Astragalus strobiliferus, Koordistan,
Yield TRAGACANTH. See "N. O. 176 and 223."

Bauhinia emarginata,
Bauhinia retusa,
SEM-KE-GOND.

Copaifera multijuga, and numerous other species yield COPAIVA.

Erythrina monosperma, one of the sources of LAC. See "N. O. 4," above.

Hymenæa Courbaril, ANIME.

Hymenæa verrucosa, MADAGASCAR and EAST INDIAN COPAL.

Hymenæa sp., MEXICAN COPAL.

Hymenæa sp., a part of BRAZILIAN COPAL.

Myrospermum peruiferum, BALSAM OF PERU.

Myrospermum toluiferum, BALSAM OF TOLU.

Pithecolobium gummiferum, yields gum in Brazil.

Trachylobium martianum, yields a portion of BRAZILIAN COPAL.

COPAL is thus produced by several trees, viz. the MEXICAN from species of *Hymenæa;* the BRAZILIAN from species of *Hymenæa*, and *Trachylobium martianum;* and EAST INDIAN and MADAGASCAR from *Hymenæa verrucosa*, it is said. INDIAN COPAL, called also (Indian) GUM ANIME, is yielded by *Vateria indica*. But none of these are the trees which yield the COPAL of the Eastern Coast of Africa, the source of which is unknown. I have seen it stated that *Rhus copallinum* of America is a source of COPAL, but cannot find the reference. I have seen it stated also that a *Guibourtia* is the source of AFRICAN COPAL, but find no such genus in any botanical work. AFRICAN COPAL is found on the island of Zanzibar, and on the neighbouring mainland. "It was observed," writes Burton, "at Mombasah, Saadani, Muhonyera, and Mezegera of Uzaramo; and was heard of at Bagamoyo, Inbuannaji, and Kilwa."—"The Arabs and Africans divide the gum into two different kinds. The raw copal (copal vert of the French market) is called sandarusi zamiti, 'tree copal' or chakáí, corrupted by the Zanzibar merchant to 'jackass,' copal. This chakází is either picked from the tree or is found, as in the island of Zanzibar, shallowly imbedded in the loose soil where it has not remained long enough to attain the phase of bitumenization."—"The true or ripe copal, properly called sandarusi, is the produce of vast extinct forests."—"The gum buried at depths beyond atmospheric influence, has, like amber and similar gum-resins, been bitumenized in all its purity,—the volatile principles being fixed by moisture and by the exclusion of external air, * * That it is the produce of a tree is proved by the discovery of pieces of gum embedded in a touchwood which crumbles under the fingers; the 'goose skin,' which is the impress of sand or gravel, shows that it was buried in a soft state; and the bees, flies, gnats, and other insects which are sometimes found in it delicately preserved, seem to disprove a remote geological antiquity." (Lake Regions of Central Africa. Vol. ii. p. 403-405.) The present Governor General of Mozambique informed me that "Copal grew in the earth and was dug out of it just like Potatoes:"—quite in the style of Sir John Maundevile.

Copal does not appear to have been known to the ancients, unless included under their σανδαράχη or Realgar.

The ANIME of the Bombay market is sometimes AFRICAN (Zanzibar) COPAL, sometimes the resin of *Vateria indica*, and never the product of *Hymenæa Courbaril*.

N. O. 75. MORINGACEÆ *MARINGADS.*

Moringa pterygosperma. *Smooth Horse-radish Tree.*

Linn. Syst. Decandria Monogynia.

Vernacular. See "Drugs."

Habitat. The two Indies, Africa.

Rĕmarks. Yields MORINGA GUM, or SAIGUT-GOOND. Of N. O. 76. Rosaceæ, several species, particularly of the genus *Prunus,* yield CHERRY-TREE GUM. Of N. O. 85. Myrtaceæ, *Eucalyptus resinifera* affords BOTANY BAY KINO, which must not be confounded with BOTANY BAY GUM, the fragrant resin of *Xanthorrhœa arborea,* N. O. 242. Liliaceæ.

N. O. 81. COMBRETACEÆ. *MYROBALANS.*

Conocarpus latifolia. *Rox.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Daura, Dabria,* By.

Habitat. Western India.

Remarks. Produces "a very white, hard, and valuable gum" (Dalzell) which forms a portion of GUM GATTIE. See. N. O. 74.

Terminalia bellerica. *Rox.*

Linn. Syst. Polygamia Monœcia.

Vernacular. See "Drugs."

Habitat. India.

Remarks. Abounds with gum, forming probably a portion of GUM GATTIE, see " N. O. 40 and 74." *Terminalia argentea* produces a resin in Brazil, and *T. Benzoin,* a fragrant resin used as incense in Mauritius.

N. O. 102. CACTACEÆ. *INDIAN FIGS.*

Opuntia rubescens. *Walper Rep.* tom. ii. p. 351. ed. 1843.

Linn. Syst. Icosandria Monogynia.

Vernacular.

Habitat. Brazil.

Remarks. A plant cultivated at the Agri-Horticultural Society's Garden at Kirkee, yields a gum somewhat resembling the false Tragacanths, in large quantity.

N. O. 110. UMBELLIFERÆ. *UMBELLIFERS.*

Narthex Asafœtida. *Falc.*

Linn. Syst. Petandria Digynia.

Vernacular. *Hinga*, Sans. *Hing*, Sans. Beng. Hind. Dec. *Hingoo*, Sans. Cey. *Perungyum*, Tam. *Ingoova*, Tel. *Hilteet*, Arab. *Ungooseeh*, Pers. *Angoo*, Malaya.

Habitat. Saristan, Afghanistan, Punjab.

Remarks. Yields ASAFŒTIDA, see "Drugs." Besides the Punjab sample, the Museum collection contains a number of samples from Persia. The other plants of this order, yielding fœtid gum-resins are *Dorema Ammoniacum*, Don, in Irak, and *Ferula orientalis*, W. in Morocco, yielding AMMONIACUM : *Ferula persica*? W. in Persia, yielding SAGAPENUM OR GUM SERAPHIC : *Ophoidia galbanifera*, Don, in Khorassan, and *Galbanum officinale*, Don, in Syria, yielding GALBANUM : *Opopanax Chironium*, Kach, a native of the shores of the Mediterranean, yielding OPOPANAX : *Bolax gummifer* and *B. aretioides* yielding BOLAX. Lindley considers it likely that SARCOCOLLA also (referred generally to N. O. 184. Penæaceæ) may belong to the present order. *Hedera terebintinacea*, N. O. 111. Araliaceæ, of Ceylon, yields a resin having the smell of turpentine ; and old ivy plants also yield gum.

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Gardenia lucida. *Rox.*

Gardenia gummifera. *Rox.*

Linn. Syst. Pentandria Monogynia.

Vernacular. **G. lucida**, *China-karinguva*, Tel. **G. gummifera**, *Chittamatta*, *Garaga*, Tel. The resin,—*Decamallee*, India. *Kunkham*, Arabia.

Habitat. *G. lucida*, Concans. *G. gummifera*, Southern Mahratta Country, Canara, Circars.

Remarks. Yields DECAMALLEE, the *κάγκαμον* of Dioscorides perhaps. See "Drugs." Of N. O. 120. Compositæ, *Cerardia furcata* yields one kind of AFRICAN BDELLIUM ; *Carlinu gummifera* yields a Mastiche-like gum, the *ἰξία* or *ἰξίνη* of the ancients ; *Othonna trifida* of the Cape is resinous ; and *Lactuca sativa* and *L. virosa*, yield LACTUCARIUM, see "Drugs." *Chondrilla juncea* yields a gum similar to Lactucarium, called *κόλλα* in Lemnos ; and *Cynara Scolymus* the gum KUNKERZEED of the Arabs. Of N. O. 125. Styraceæ, *Styrux Benzoin* is the source of GUM-BENJAMIN, or BENZOIN, and *Styrax officinale*, in ancient times of STORAX (*στύραξ*). See "Drugs." *Styrax reticulata*, *S. ferruginea*, and *S. aurea* produce a fragrant secretion in Brazil.

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N. O. 135. SAPOTACEÆ. *SAPOTADS.*

Mimusops Elengi. *Linn.* *Pointed-leaved Mimusops.*

Linn. Syst. Octandria Monogynia.

Vernacular. *Kesura, Vukoola,* Sans. *Bukool,* Beng. *Bacul-mulsari,* Hind. *Bholsari,* Dec. *Elengee,* Mal. *Moghadam,* Tam. *Poghada,* Tel.

Habitat. Silhet, Bengal, Deccan.

Remarks. Yields POGADA GUM of the Madras presidency. *Isonandra Gutta,* Hook, of the Malayan Archipelago, is the source of GUTTA PERCHA.

Mimusops Kaki. *W.* *Obtuse-leaved Mimusops.*

Linn. Syst. Octandria Monogynia.

Vernacular. *Ksheerike,* Sans. *Ksheerni,* Beng. *Kheeri, Chirni,* Hind. *Boasoo, Manil-kara,* Mal.

Habitat. East Indies.

Remarks. Yields gum. See "Fruits and Vegetables."

N. O. 140. ASCLEPIADACÆ. *ASCLEPIADS.*

Calotropis gigantea. *R. Brown.* *Curled-flowered Calotropis.*

Linn. Syst. Pentandria Digynia.

Vernacular. See "Drugs."

Habitat. India.

Remarks. The milky sap on evaporation forms a sort of CAOUTCHOUC.

Cryptostegia grandiflora. *R. Br.* *Large-flowered Cryptostegia.*

Linn. Syst. Pentandria Digynia.

Vernacular. *Palay,* Mal.

Habitat. Malabar, Coromandel.

Remarks. The milky sap on evaporation forms a sort of CAOUTCHOUC. *Cynanchum ovalifolium,* yields the CAOUTCHOUC, or INDIA-RUBBER of Penang. See also "N. Os. 141. 195. and 200." *Cynanchum acutum* yields the resin known as MONTPELLIER SCAMMONY, and *Periploca mauritiana,* BOURBON SCAMMONY. See "N. O. 151."

N. O. 141. APOCYNACEÆ. *DOGBANES.*

Plumieria acuminata. *H. K.* *Acuminated Plumieria.*

Linn. Syst. Pentandria Monogynia.

Vernacular. *Gobur-champa,* Beng. *Goolachin, Goburchamp,* Hind. *Khair-champa,* By.

Habitat. East Indies.

Remarks. The inspissated milk-sap forms a sort of CAOUTCHOUC. *Collophora utilis,* and *Cameraria latifolia* yield CAOUTCHOUC, GUM ELASTIC, or ELASTIC-RESIN, in South America; *Vahea gummifera* in Madagascar; and *Urceola elastica,* and *Willoughbeia edulis* in the East Indies. (Lindley.) See also "N. Os. 140. 195. and 200." Of N. O. 151. Convolvulaceæ, *Convolvulus Scammonia,* Linn. yields SCAMMONY.

N. O. 169. NYCTAGINACEÆ. *NYCTAGOS.*

Bougainvillæa spectabilis. *Juss.* *Showy Bougainvillæa.*

Linn. Syst. Octandria Monogynia.

Vernacular.

Habitat. Mexico.

Remarks. Yields a gum, like Gum-Arabic. Of N. O. 176. Polygonaceæ, *Coccoloba uvifera* furnishes a Kino-like exudation, and *Calligonum pallasia,* a gum, like Tragacanth. Of N. O. 180. Myristicaceæ, a species, the Dungan of the Philippines yields an exudation resembling Dragon's Blood, mentioned under N. O. 74. SARCOCOL (σαρκοκόλλα of Dioscorides) is thought to be the product of a species of N. O. 184. Penæaceæ, but Lindley considers that it more likely is derived from some Umbellifer.

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Euphorbia Tirucalli. *Linn.* *Indian Tree-spurge.*

Linn. Syst. Decandria Trigynia.

Vernacular. *Lunka-sij,* Beng. *Trincalli,* Mal. Tam.

Habitat. India.

Remarks. This is the *Milk Bush* of Anglo-Indians. The milk sap evaporated, resembles INDIA RUBBER or GUTTA PERCHA. *E. nereifolia,* Linn. (*Sij,* Vulg.) and *E. antiquorum,* Linn. (*Narsej,* Vulg.) have a similar juice. That of *Euphorbia Cattimandoo,* W. Elliot, of Vizagapatam has attracted considerable notice. *Euphorbia canariensis,* Linn. is the source of the acrid gum-resin, EUPHORBIUM. *Aleurites laccifera, Croton Draco,* and *Croton sanguiferum,* have been already referred to under N. O. 4. Siphonia elastica, yields the INDIA RUBBER of Brazil and Guayana. See "N. Os. 140. 141. 195. and 200."

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N. O. 199. URTICACEÆ. *NETTLEWORTS.*

Cannabis sativa. *W.* *Common Hemp.*

Linn. Syst. Diœcia Pentandria.

Vernacular. See "Drugs" and "Narcotics."

Habitat. Caucasus, Hindoo Koosh, Himalayas.

Remarks. The resin is commonly called CHURRUS. See "Drugs."

N. O. 200. ARTOCARPACEÆ. *ARTOCARPADS.*

Urostigma elasticum. *Miq.* *Elastic-gum Fig-tree.*

Linn. Syst. Polygamia Diœcia.

Vernacular. *Kusneer*, Beng.

Habitat. Shilet. Flourishes luxuriantly on the coast of Western India.

Remarks. The source of INDIA-RUBBER. *Ficus Radula*, *F. elliptica*, and *F. prinoides*, yield it in America. The INDIA-RUBBER of Papantha is said to be derived from *Castilloa elastica;* and *Cecropia peltata*, a common tropical tree, also furnishes the substance. It is the light porous wood of this tree which is used by the American savages to give them light by friction. Of N. O. 209. Salicaceæ, *Populus nigra*, *P. balsamifera*, and *P. nigricans*, yield a balsamic exudation. Of N. O. 210. Liquidambaraceæ, *Liquidambar orientale*, of Cyprus and Anatotia, *L. Altingia*, of Java, and *L. Styraciflua*, of the Confederated States of America, yield a balsam known in commerce under the various names of COPALM, ROSE MALLOES, LIQUIDAMBAR, &c. Of N. O. 220. Conniferæ.

Abies balsamea, yields CANADA BALSAM.

Abies canadensis, Lind. a portion probably of CANADA BALSAM.

Abies excelsa, De C. COMMON FRANKINCENSE, or THUS.

Abies Picea, Lind. STRASBURG TURPENTINE.

Callitris quadrivalvis, SANDARACH.

Araucaria braziliensis, yields a fragrant resin.

Dammara australis, COWDIE or KAURIE, gum of New Zealand.

Dammara orientalis, WHITE DAMMAR of Singapore.

Juniperus lycia, W. } yield resin.
Juniperus phœnicia, W. }

Larix europæa, VENICE TURPENTINE, and ORENBURGH-GUM.

Pinus Cemba, Lamb. CARPATHIAN TURPENTINE.

Pinus Deodara, KELON-KE-TEL, BALSAM.

Pinus palustris, Lam. a portion of AMERICAN TURPENTINE.

Pinus Pinaster, Acton, BORDEAUX TURPENTINE.

Pinus Pumilio, Lamb. HUNGARIAN BALSAM.

Pinus sylvestris, Linn. EUROPEAN COMMON TURPENTINE.

Pinus Tæda, Lam. a portion of AMERICAN TURPENTINE.

ROSIN (yellow and black, COLOPHONY) is the resin of the terebinthinate pines; and TAR and PITCH the products of their destructive distillation. *Gnetum urens,* N. O. 222, Gnetaceæ exudes a clear gum.

Of N. O. 223. Cycadaceæ, *Cycas circinalis* yields a Tragacanth-like gum. Of N. O. 241, Bromeliaceæ, *Puya lanuginosa* yields a transparent gum from its spike. Of N. O. 242. Liliaceæ, *Dracæna Draco* yields DRAGON'S BLOOD in the Canary Isles, as noticed under N. O. 74; and *Xanthorrhœa hastile* affords a fragrant yellow resin in Australia. Under N. O. 251. Palmæ, *Cocos nucifera, W.* Common Cocoanut, yields gum in considerable quantity. Under "Drugs," *teste* Lindley, AFRICAN BDELLIUM is referred to *Hyphæne thebaica.* Seeman appears to doubt the reference, but in Vansleb's "State of Egypt" (London 1678) the *Doum* is called the *Gum-tree,* and several authorities refer BDELLIUM to it, as others have to *Borassus flabelliformis.*

DIVISION I.

Class 4. B.

OILS AND OIL SEEDS.

N. O. 1. RANUNCULACEÆ. *CROWFOOTS.*

Nigella sativa. *W. Small Fennel-flower.*

Linn. Syst. Polyandria Pentagynia.

Vernacular. See "Drugs."

Habitat. The Mediterranean countries. Cultivated in India.

Remarks. See "Drugs." The seeds yield an oil, but little used. An oil is obtained from the capsules of *Illicium anisatum,* Linn. but only for medicinal use.

N. O. 13. PAPAVERACEÆ. *POPPYWORTS.*

Argemone mexicana. *Linn. Mexican Argemone, Gamboge Thistle, Fico del' Iferno, Cardo Santo.*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Bramhie, Bramhadundie, Faringee-datura, Suchianas, Bherband,* Hind. *Shial-kanta,* Beng. *Faringee-datura, Peela-datura,* Dec. *Brumhadundoo, Brumarakash,* Tam. *Brumhadundie,* Tel. *Balu-rakkisa, Dotury,* Can.

Habitat. Mexico. Has overrun nearly all tropical Africa and Asia.

Remarks. See "Drugs." It is not cultivated, and the oil obtained from the seeds, is not exported.

Papaver somniferum. *Linn. Garden Poppy.*

Linn. Syst. Polyandria Polygynia.

Vernacular. See "Drugs."

Habitat. Asia and Egypt.

Remarks. See "Drugs." The oil obtained from the seed is largely used both in lamps, and as food. The seeds of *Sanguinaria canadensis*, W. *Blood-wort* of North America, yield also a bland nutritious oil.

N. O. 15. CRUCIFERÆ. *CRUCIFERS.*

Brassica Napus. *Linn. Rape.*

Linn. Syst. Tetradynamia Siliquosa.

Vernacular. *Sursul*, Guzerat.

Habitat. Found on ditch banks in Britain. Cultivated extensively in Guzerat.

Remarks. When and how was this plant introduced into India that yields the Rape-seed and Cole-seed of commerce, the *Sursoo* of Bombay merchants, from which the valuable oil is obtained by expression? It is one of the most important oil-bearing plants in India. Colza, cultivated for its oil in Europe,has been said to be a variety of this plant, but De Candolle considers it a variety of *B. campestris*, Linn. Shanghai oil is obtained from the seeds of *Brassica chinensis.* The seeds of *B. oleracea*, Linn. *Lepidium sativum*, Linn. and *Raphanus sativus*, Linn. are also said to be expressed for their oil in India. *Camelina sativa*, Crantz, *Cultivated Gold of Pleasure*, is cultivated in Europe for its oil seed. The seeds of *Hesperis matronalis*, Linn. *Common Rocket* of Italy, yield oil of Julienne.

N. O. 16. CAPPARIDACEÆ. *CAPPARIDS.*

Cleome viscosa. *W. Viscid Cleome.*

Linn. Syst. Tetradynamia Siliquosa.

Vernacular. *Kooka-vaivinta, Kooka-vaimitie, Shunaca-barbara*, Sans. *Hoorhooriya*, Beng. Hind. *Ariaveela*, Mal. *Nayavaylei*, Tam. *Walaba*, Cyng.

Habitat. Malaba, Ceylon.

Remarks. This plant is not cultivated, and the oil obtained from its seed is little used. Under N. O. 17. Resedaceæ, *Reseda Luteola, Dyers' weed*, yields oil of Weld-seed.

N. O. 30. MALVACEÆ. *MALLOW-WORTS.*

Thespesia populnea. *Lam. Poplar-leaved Hibiscus.*

Linn. Syst. Monadelphia Polyandria.

Vernacular. *Sooparshavaka*, Sans. *Porush*, Beng. Hind. *Paris, Paris-pipal*, Hind. *Porsung, Pooarasoo*, Tam. *Ghengaravie*, Tel. *Sooriya-gaha*, Cey.

Habitat. East Indies.

Remarks. This is the *Portia Tree* of Anglo-Indians. It is first mentioned by Van Rheede. The oil obtained from the seed is little known. *Hibiscus ficulneus,* Linn. of Southern India and Ceylon, also has an oil seed. The seeds of all the cotton plants (*Gossypium* sps.) are oily, but the varieties chiefly cultivated in India having seeds to which the cotton adheres firmly, do not yield oil in such a large proportion as those varieties in which the cotton is loosely attached to the seeds, at least to the pressure employed in this country. Hence, as a rule, the oil of cotton seed is not expressed in India. When the smooth-seeded varieties of *Gossypium* become generally cultivated, their oil will add largely to the profits of cotton cultivation, and enable the ryot to offer the fibre at a price probably below all competition. Under N. O. 31. Sterculiaceæ, several species of *Sterculia* and *Salmalia malabarica* have oleaginous seeds deserving of attention.

N. O. 34. DIPTEROCARPACEÆ. *DIPTERADS.*

Vateria indica. *Linn.*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Vella-koodricum, Peinemarum,* Mal. *Koodricum,* Tam. *Dupadamara,* Tel.

Habitat. Malabar, Travancore.

Remarks. See "Gums and Resins." The oil obtained from the seed of this tree is solid. Solid oils, or vegetable fats, are also obtained from *Garcinia purpurea* (*v. infra*), and *Pentadesma butyracea,* of Sierra Leone, N. O. 42; from species of *Bassia* (as Shea-butter, *v. infra*), N. O. 135; from *Fraxinus hanburii*? (Insect wax) of China, N. O. 138. Oleaceæ; from *Stellingia sebifera,* of China, N. O. 195. Euphorbiaceæ; from *Myrica cerifera,* of North America, N. O 208. Myricaceæ; and from *Copernicia cerifera,* of Peru, N. O. 251. Palmæ. *Theobroma Cacao,* N. O. 32. Byttneriaceæ, yields what is called Butter of Cocoa; and from *Laurus nobilis,* or *Sweet Bay,* and *Cinnamomum zeylanicum,* N. O. 178. Lauraceæ, and from *Myristica fragrans,* N. O. 180, butter-like oils are procured. In the museum also there are samples of vegetable tallow from Japan and Borneo, the sources of which are at present unknown. For the former I am indebted to J. Ritchie, Esq., late Superintendent of the P. & O. Company, Bombay. Oil is obtained from the seeds of *Shorea robusta,* Gært. the *Saul* of Hindoostan. The species of *Dipterocarpus,* yielding the Wood-oil of commerce, have been noticed under "Gums and Resins." Camphor-oil and Borneo or Sumatra Camphor, are obtained from *Dryabalanops Camphora,* Colebrooke. For true Camphor, see "N. O. 178," and "Drugs." Under N. O. 36. Ternströmiaceæ, *Camellia oleifera,* Abel. is valuable for its oil-seed.

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Bergera königii. *W. et A.*

Linn. Syst. Decandria Monogynia.

Vernacular. See "Fruits and Vegetables."

Habitat. Cultivated in India.

Remarks. First described by Rumphius. Oil is obtained from the leaves, but only on a small scale. The leaves of *Citrus Aurantium,* Risso, and *Citrus Bigaradia,* Risso, yield an essential oil called *Essence de petit grain.* Their flowers also yield a fragrant volatile oil, Oil of Neroli. Essence of Bergamot is obtained from the rind of *Citrus Bergamia,* Risso, Essential-oil of Lemon Peel from the *Citrus Limonum,* Risso. The Cedrat of perfumers from the rind of *Citrus medica,* Risso, and Essential oil of Citron from the flowers of the same. For Citronella, see "N. O. 266." Marmala water is prepared by distillation from the flowers of *Ægle Marmelos.*

N. O. 42. GUTTIFERÆ. *GUTTIFERS.*

Callophyllum inophyllum. *Linn.* *Sweet-scented Calophyllum*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Poonaga?* Sans. *Sultan-champa, Surpunka,* Hind. *Surpunka, Oondee,* Dec. *Poona,* Mal. *Pinnay,* Mal. *Poonagamu,* Tel. *Teldomba,* Cey.

Habitat. Malabar, Deccan.

Remarks. See "Drugs." The seeds yield a dark-green oil, called Domba-oil, in commerce.

Garcinia purpurea. *Rox.*

Linn. Syst. Dodecandria Monogynia.

Vernacular. *Kokum,* By. *Brindao,* Goa.

Habitat. Ravines of the Concan.

Remarks. See "Drugs." A concrete oil is obtained from the seed, often called Cocum-oil. The seeds of *Garcinia pictoria* yield a similar oil in Mysore, called Gamboge-butter. *Calophyllum Calaba,* W. the *Calaba Tree,* of Cochin, yields a clear oil. Oil is also procured from *Mesua ferrea,* in Canara. *Pentadesma butyracea* is called Butter or Tallow Tree in Sierra Leone, on account of the fatty oil yielded by its fruit. Under N. O. 46. Erythroxylaceæ, *Sethia indica,* De C. (*Erythroxylon monogynum,* Rox. Cor. fig. 88) of the Circars, yields oil from its wood.

N. O. 48. SAPINDACEÆ. *SOAPWORTS.*

Sapindus emarginatus. *Vohl. Emarginated Soap-berry.*

Linn. Syst. Octandria Monogynia.

Vernacular. *Rishta, Arishta, Phœnile,* Sans. *Rita,* Hind. *Buroreetha,* Beng. *Reteh,* Dec. *Rarak,* Mal. *Poovandie-cottay, Manaypoongunkai, Poonanga,* Tam. *Kunkoodoo, Koomuttieghenzaloo,* Tel. *Gas-penela,* Cey.

Habitat. India.

Remarks. See "Drugs" An oil, used only locally, is extracted from the kernel of the seed. The seeds of *Pappea capensis,* Eckl. of the Cape, abound with oil, and I have been enabled through the kindness of Dr. Pappe to procure some seeds for experiment here. In N. O. 49. Rhizobolaceæ, *Caryocar butyrosum* of Demerara has a very oleaginous nut, known as the Suwarrow or Souaria nut.

N. O. 50. MELIACEÆ. *MELIADS.*

Azadirachta indica. *A. de Juss. Ash-leaved Bead-tree.*

Linn. Syst. Monadelphia Decandria.

Vernacular. *Nimba,*Sans. *Nim, Arishto,* Hind. *Neem,* Dec. *Bewa,* Can. *Aria-bepou,* Mal. *Veypam,* Tam. *Vepa, Vaympa,* Tel. *Tel-kohomba,* Cey. *Thembbua-kamanah,* Pegu.

Habitat. India.

Remarks. See "Drugs." Oil is extracted from the fruit.

Melia Azederach. *Linn. Common Bead-tree.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Mullay-vaempoo,* Mal. *Malay-vaymboo,* Tam. *Tarukavepa,* Tel. *Lunu-midella,* Cey. *Zœnzalacht,* Egypt.

Habitat. Syria. Found all over the Deccan.

Remarks. This tree is first described by Avicenna under the name of Azad-durakt, and by Matthiolus. It is the *Persian Lilac* of Anglo-Indians. The oil expressed from the fruit is similar to Neem-oil. *Trichilia pinosa,* W. yields an empyreumatic oil in Southern India. *Carapa Touloucouna,* of Senegambia, yields the Tallicoonah or Kundah-oil of commerce; *C. guianensis,* the Carab or Crab-oil, of Guiana and Trinadad; and *C. molluccensis,* Lam. (*Xylocarpus Granatum,* Kœn.) a similar oil in the Eastern Archipelago. Under N. O. 52. Cedrelaceæ, an undetermined species of *Swietenia,* yields the *Gayapa*-oil of Southern India. Grape-seed oil is obtained from the Vine, N. O. 53.

N. O. 55. LINACEÆ. *FLAXWORTS.*

Linum usitatissimum. *Linn. Common Flax.*

Linn. Syst. Pentandria Pentagynia.

Vernacular. *Atasi, Matusee, Ooma*, Sans. *Ulsee, Tisi, Musiña, Musnee*, Hind. *Jowus*, Dec. *Aliveree, Allee-seroo-sanul*, Tam. *Buzruc, Kettan*, Arab. *Kutan*, Pers.

Habitat. Egypt. Cultivated widely in Europe and India.

Remarks. First mentioned, Exod. ix. 31. This is one of the most important oil-yielding plants in India, and is largely cultivated. Under N. O. 62. Zygophyllaceæ, the seeds of *Balanites ægyptiaca*, Delile, yield a fat oil called *Zachun ;* but I never heard of its being expressed in India. Under N. O. 63. Rutaceæ, *Dictamnus Fraxinella*, Link, *Bastard Dittany* of Germany, abounds so in volatile oil as sometimes to enkindle the air round it.

N. O. 68. CELASTRACEÆ. *SPINDLE TREES.*

Celastrus montanus. *Rox.*

Celastrus paniculatus. *W.*

Linn. Syst. Pentandria Monogynia.

Vernacular. *Malkunganee*, Hind. Dec. *Valuluvy, Peddachintoo*, Tam. *Bavungie*, Tel.

Habitat. Concans, Neilgherries, Vizagapatam, Dheyra Dhoon.

Remarks. See "Drugs." The oil expressed from the seeds is of a bright scarlet colour, and this subjected with other ingredients to destructive distillation forms the Oleum Nigrum of Madras.

N. O. 71. ANACARDIACEÆ. *ANACARDS or TEREBINTHS.*

Anacardium occidentale. *W. Common Cashew.*

Vernacular. *Beejara-Sala*, Sans. *Hijilee-badam*, Beng. *Cajoo*, Dec. *Parunkimanvah, Peiteira-manjo*, Mal. *Moondri*, Tam. *Jidi-memidi, Muntamamedi*, Tel. *Watu-caju*, Cey. *Cadju*, Malaya. *Jamboo-eerong*, Sumatra.

Habitat. South America. Naturalized in Malabar, Coromandel, Chittagong, Trichinoply.

Remarks. First described by Thevetius. A bland nutritious oil of the finest kind is expressed from the nuts of this tree. It is not, however of any commercial importance, as the nuts are generally eaten. The pericarp, as noted under "Gums and Resins," furnishes an acrid oleo-resin.

CSL

Buchanania latifolia. *Rox.*

Linn. Syst. Decandria Pentagynia.

Vernacular. *Piyala*, Sans. Beng. *Peeyar, Cheroonjia,* Hind. *Pyal, Charolee,* By. *Morœda, Mowd, Kat-mango, Tumbi*, Tam. *Tsaroo-mamadi, Tsa-roo-puppoo,* Tel.

Habitat. Belgaum, Malabar, Coromandel.

Remarks. The kernels of the nut abound with a sweet, wholesome oil, which however is seldom extracted. The pericarp yields a black oleo-resin, like other trees of the order. This is the *Chirongia sapida* of Buchanan.

Semecarpus Anacardium. *Linn. Marking Nut.*

Linn. Syst. Polygamia Diœcia.

Vernacular. See "Drugs."

Habitat. India.

Remarks. The ξανθοβάλανον of Galen. The nut yields an oil, the pericarp a highly acrid oleo-resin.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS.*

Arachis hypogæa. *Linn. American Earth-nut, Manilla Gram.*

Linn Syst. Diadelphia Decandria.

Vernacular. *Boochanaka,* Sans. *Booe-moong, Moong-phullie,* Hind. *Booi-sing, Velaitee-moong,* Dec. *Vayer, Nelay-cadalay,* Tam. *Nela-sanagalu, Veru-sanaga,* Tel. *Cachang-gorung,* Sumatra.

Habitat. South America, and the Mediterranean countries. Largely cultivated in India.

Remarks. The οὐιγγόν of Theophrastus, according to Sprengel. This, like flax, rape, and sesamum, is one of the most important oil-yielding plants cultivated in India. A species of Arachis is said to be the source of the Teuss or Tea-oil of commerce, obtained from China.

Pongamia glabra. *P. S. Smooth-leaved Pongamia.*

Linn. Syst. Diadelphia Decandria.

Vernacular. *Karunja, Naktamala,* Sans. *Caranj, Karunje,* Hind. *Canaga,* Can. *Pongam,* Mal. *Poongamarum,* Tam. *Kanoogamanoo,* Tel. *Mogul-karanda,* Cey.

Habitat. Concans, Malabar, Travancore, Coromandel, Bengal.

Remarks. First mentioned by Van Rheede. It is the *Dalbergia arborea* of some writers. *Karinga* is also a Tamil name of *Gardenia arborea.*

Rox. a Cinchonad. The seeds yield oil in great abundance, and it is largely used for burning on the Malabar coast. It does not appear to be exported although very cheap. The seeds of *Abrus precatorius, Butea frondosa, Guilandina Bonduc, Inga dulcis* (Madras), and of *Trigonella Fœnum Græcum,* and the wood of *Dalbergia Sisso,* Rox. yield oil for local uses, that of the Bonduc nut being employed only in medicine. Oil is expressed from the seeds of *Cæsalpinia oleosperma,* Rox. (*Umul-koochi,* Beng. *Noonee-glika,* Tel.) in Bengal, and from those of *Soja hispida,* W. *Soy,* in Japan. The latter oil is said to be solid, and called *Mijo.*

Huile de Cassie is prepared by macerating the flowers of *Vachellia Farnesiana,* W. (*Gooya-baboola,* By.) in olive, or any clear, sweet oil. It is one of the finest odours used in the composition of fashionable scents.

> "The short narcissus, and fair daffodil,
> Pansies to please the sight, and cassie sweet to smell."—*Dryden.*

Casse is a French term for Black Currant leaves; and Cassia for the pulp of *Cathartocarpus fistula,* and the bark of *Cinnamomum Cassia.* The fragrance of the seeds of *Dipterix odorata,* called *Tonka, Tonguin,* or *Coumarouma beans,* is principally due to a volatile oil. The extract prepared from them enters into innumerable artificial perfumes, and is the chief ingredient in *Bouquet de Champ.* The *Eboe-nut* of the Mosquito Coast, used also in the preparation of fragrant pomatums, is the seed of *Dipterix oleifera.*

N. O. 75. MORINGACEÆ. *MORINGADS.*

Moringa pterygosperma. *Gært. Smooth Horse-radish Tree.*

Linn. Syst. Decandria Monogynia.

Vernacular. See "Drugs."

Habitat. The two Indies.

Remarks. See "Drugs." The Ben-oil of watchmakers is stated to be obtained from the seeds of this tree; and it is stated also that oil is expressed from them in India. I have never seen oil obtained from them in this country, I have never been able to trace any in the seeds, and I do not believe the statements that they are oleiferous in India. N. O. 76. Rosaceæ furnishes Plum-kernel oil from *Prunus domestica, Huile des Marmottes* from *Prunus brigantiaca,* and Almond-oil from the kernels of *Amygdalus communis,* var. *amara,* De C. and var. *dulcis,* De C. The Volatile-oil of Bitter Almonds is prepared from the first variety only. Miribane is artificial essence of almonds. Attar or Otto of Roses is obtained by distilling rose petals with water. In Northern India *R. damascena* is the rose employed, in Europe *R. centifolia,* and in Persia, it is believed, *R. Moschata. Esprit de Rose triple* is the *ne plus ultra* of perfumery. The seeds of *Prinspia utilis* yield oil according to Royle.

N. O. 81. COMBRETACEÆ. *MYROBALANS.*

Terminalia bellerica. *Rox.*
Terminalia Catappa. *Linn. Broad-leaved Terminalia.*
Terminalia chebula. *Rox. Oval-leaved Terminalia.*

Linn. Syst. Polygamia Monœcia.

Vernacular. See "Drugs."

Habitat. T. bellerica, India. *T. Catappa,* Malaya. Cultivated in India. *T. chebula,* Cabul, India.

Remarks. See "Drugs." Oil is expressed on a small scale from the kernels of all these plants. In regard to the Deccan designation of *T. Catappa, Jungli-badam,* it is to be noted the same name is applied to *Canarium commune,* N. O. 72. Under N. O. 85. Myrtaceæ, Oil of Cloves, the basis of Rondeletia, and the Guard's Bouquet is obtained by distilling the dried immature buds of *Caryophylus aromaticus,* Linn. with water; and Oil of Pimento, similarly from the dried unripe berries of *Eugenia Pimenta,* De C., and other species of Allspice. Cajuputi-oil is distilled from the partially fermented leaves of *Melaleuca minor,* Smith, a native of the Moluccas. A volatile oil also is said to be prepared in India from the leaves of *Psidium pyriferum,* W. and *P. pomiferum,* W. Otto of Myrtle, is prepared by distillation from the flowers and leaves of *Myrtus communis.*

N. O. 92. CUCURBITACEÆ. *CUCURBITS.*

Cucumis Melo. *W. et A. Melon.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. *Kurbooja,* Beng. Hind. *Gidhro,* Sind. *Baka-coy,* Mal. *Molam,* Tam. *Rata-komadu,* Cey. *Beteekh* (Musk-melon), Arab. *Kirbooseh,* Arab. *Labofrangee,* Malaya.

Habitat. Persia? Cultivated over the world.

Remarks. See "Fruits and Vegetables." A sweet edible oil is obtained from the seed, as from the seeds of the species following. Indeed nearly all the Cucurbits have oily seeds, and it is remarkable that those in India should have been neglected on this point.

Cucumis sativus. *W. Common Cucumber.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. *Sookasa,* Sans. *Susha,* Beng. *Keera,* Hind. *Keera-kankuri,* Dec. *Mullen-belleri,* Mal. *Maloo-velleri,* Tam. *Rata-kækeri, Pipingya,* Cey. *Kusud,* Arab. *Fakus,* Egypt. *Autimun,* Eastern Archipelago.

Habitat. East Indies. Cultivated over the world.

Remarks. See "Drugs," and *C. Melo,* above.

Cucurbita Pepo. *W. Pumpkin, or White Gourd.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. *Kurkaroo*, Sans. *Koshnanto*, Beng. *Koomra*, Beng. Hind. *Pandree-chickee*, By. *Cumbulam*, Mal. *Boorda-gomodoo, Cumbuly, Budadi-gumadi, Potti-gumadi*, Tel. *Alu-puhul*, Cey.

Habitat. Levant. Cultivated widely.

Remarks. See " Drugs," and *C. Melo*, above. Oil is extracted also in Madras from the seeds of *Citrullus Colocynthis*, Schrad. and *Bryonia callosa*, Rottl. (*Toomutti*, Tam. *Boddama*, Tel.) and used for lamps. The seeds of *Telfaria pedata*, W. and A. of Zanzibar, yield a fine, bland oil in abundance. The seeds are also as fine tasted as almonds. The plant was introduced into Bombay by Nimmo, but appears to have died out. The seeds of *Fevillea cordifolia*, De C. of the West Indies, and *F. trilobata*, Linn. of Brazil, yield valuable oil also. The seeds of *Aniosperma, Passiflora*, and of *Hypanthera Guapeva*, of Brazil, yield a bitter oil. *Benincasa cerifera*, Savi, of India, secretes a waxy substance on the surface of its fruit. Under the allied order N. O. 93. Papayaceæ, the seed of *Hydnocarpus inebrians* yields the *Neeradimootoo, Maroty, Tamana*, or *Soorty* oil of Travancore, and the Madras Presidency. Under N. O. 98. Illecebraceæ, the seed of *Spergula sativa*, one of the species of *Spurry* of the meadows of Holland, yield a good lamp oil on expression. Under N. O. 109. Hamamelidaceæ, *Hamamelis virginica*, has oleiferous seeds.

N. O. 110. UMBELLIFERÆ. *UMBELLIFERS.*

Ptychotis Ajowan. *De C.*

Linn. Syst. Pentandria Digynia.

Vernacular. *Ajmodum*, Sans. *Ajwan, Juvanee, Boro-joan*, Hind. Beng. *Womum*, Tam. *Amoos*, Arab. *Nankah*, Pers.

Habitat. Cultivated throughout India.

Remarks. Papers on the oil of Ajowan, by Stenhouse, are to be found in the Pharmaceutical Journal and Transactions, vol. xiv. p. 272, the Chemical Society's Quarterly Journal, vol. ix. p. 234, and by Haines, in the Chemical Society's Quarterly Journal, vol. viii. p. 289.

Volatile-oil is also obtained in India by distillation from the fruit (seed, *vulg.*) of *Cuminum Cyminum*, Linn. and *Pimpinella Anisum*, Linn. and probably, as in Europe, from all the well-known aromatic Umbellifers. The oils are distinguished by the common names of the plants from which they are prepared as Anise, Caraway, Fennel, &c.

N. O. 120. COMPOSITÆ. *COMPOSITES.*

Carthamus tinctorius. *W. Officinal Carthamus.*

Linn. Syst. Syngenesia Æqualis.

Vernacular. *Cusumba, Kamalottara,* Sans. *Koosumbha,* Beng. Hind. Dec. Tel. *Kajeerah,* Beng. *Koosum,* Hind. *Seendoorkum,* Tam. *Cossumb,* Cey. *Usfer,* Arab. *Ossfar, Qortom,* Egypt.

Habitat. Egypt. Widely cultivated in India.

Remarks. The κνῆκος of Hippocrates, Theophrastus, and Dioscorides. The oil *(Kurdee-ka-tael)* is obtained from the seeds (*Kurdee*), and the plant is one of the most important of those cultivated in India for their oil seeds. The flowers (Safflower) are used as a dye, and the plant itself is an agreeable pot-herb. It is the *Crocus Indicus* of Rumphius. *Koosumb* is also a name of *Schleichera trijuga,* W. et A. N. O. 48. Sapindaceæ.

Verbesina sativa. *H. K. Oil Seed Verbesina.*

Linn. Syst. Syngenesia Superflua.

Vernacular. *Ramtil,* Beng. *Kalatil,* Hind. *Kutrelle,* Can. *Valesuloo,* Tel.

Habitat. East Indies.

Remarks. The seeds are the Niger seeds of commerce. The plant is now generally called *Guizotia oleifera,* De C. It is Sprengel's *Jagera abyssinica,* and Buchanan's *Bupthalmum Ramtilla.* It is an important oil seed, and largely cultivated. The seeds of *Helianthus annus,* W. *Annual Sun-flower* (*Bhramoka,* India), yield oil; and the plant might be profitably cultivated for the purpose. The seeds of *Vernonia anthelmintica,* W. *Purple Fleabane* (*Kaleezerie,* Hind. See "Drugs"), yield oil; but this would appear to be expressed by the *Hakims* only. The Madia oil of Chili is expressed from the seeds of *Madia sativa.*

N. O. 135. SAPOTACEÆ. *SAPOTADS.*

Bassia latifolia. *Rox. Broad-leaved Bassia.*

Linn. Syst. Dodecandria Monogynia.

Vernacular. See "Narcotics."

Habitat. East Indies.

Remarks. "The seeds yield a large quantity of thick oil." "The oil is used in making soap in the Kaira Zillah." (Dalzell.)

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Bassia longifolia. *W. Long-leaved Bassia.*

Linn. Syst. Dodecandria Monogynia.

Vernacular. *Madooka,* Sans. *Mooa,* Beng. *Mohe,* Hind. *Illupi,* Tam. *Ippa,* Tel. *Telmee,* Cey.

Habitat. The Deccan,—in this government being confined to the southernmost districts.

Remarks. The oil expressed from the ripe fruit is used in cooking, for burning and in the preparation of country soap. It is usually solid. The seeds of *B. butyracea,* Rox. yield a firm butyraceous oil, eaten in Nepaul. The *Shea* or *Golam,* butter of Mungo Park's Travels, is the product of a *Bassia.*

Mimusops Elengi. *W. Pointed-leaved Mimusops.*

Linn. Syst. Octandria Monogynia.

Vernacular. *Kesura, Vukoola,* Sans. *Bukool,* Beng. *Bacul-mulsari,* Hind. *Buckhool, Wowlee,* By. *Elengi,* Mal. *Mayadoo,* Tam. *Pagada,* Tel. *Moona-mal,* Cey.

Habitat. India.

Remarks. Oil may be expressed from the seeds in considerable quantity. Under N. O. 137. Jasminaceæ, Jasmine-oil is prepared from the flowers of *Jasminum Sambac, J. odoratissimum,* and other species by distillation. Under N. O. 138, Oleaceæ, the pericarp of the drupe of *Olea europæa,* Linn. yields Olive-oil by expression; and *Fraxinus hanburii* (*teste* Murchison) produces the Insect Wax of China, probably on the puncture of some species of *Coccus.* Under N. O. 141. Apocynaceæ, oil is obtained in India from the seeds of *Cerbera Thevetia,* Don, and *Wrightia antidysenterica,* Don, but used only on a medicinal scale. Oil is said also to be obtained for medical use from the seed (Nux Vomica) of *Strychnos Nux Vomica,* Linn. N. O. 142. Loganiaceæ.

N. O. 147. BIGNONIACEÆ. *BIGNONIADS.*

Bignonia xylocarpa. *Rox.*

Linn. Syst. Didynamia Angiospermа.

Vernacular. *Kursing,* By.

Habitat. India.

Remarks. An empyreumatic oil "distilled from the wood is powerful in cutaneous diseases." (Dalzell.)

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N. O. 147. PEDALIACEÆ. *PEDALIADS.*

Sesamum indicum. *De C. Indian, or Oriental Oily-grain.*

Linn. Syst. Didynamia Angiospermia.

Vernacular. *Tila,* Sans. *Til,* Beng. Hind. *Krisha-til,* Hind. *Bareek-til,* Dec. *Schit-eloo,* Mal. *Yelloo-cheddie,* Tam. *Noowooloo,* Tel. *Tel-tala, Tun-pattala,* Cey. *Djyl-djylan,* Arab. *Kunjed,* Pers. *Semsem,* Egypt.

Habitat. India, from whence its cultivation was carried in the earliest ages to Mesopotamia and Egypt, and has now extended to the West Indies.

Remarks. De Candole's plant is described in Rumphius (Amboyna, v. p. 204), and is the same as the *S. orientale* of the Linnæa of 1832. He admits three varieties, namely:—

a, grandidentatum, Rumph. (Amb. v. tab. 76, fig. 1).

β, subdentatum, Bot. Mag. 1688.

γ, subindivisum, Rheede (Mal. ix. tab. 54, *et forte* 55).

This is the σήσαμον of the Greeks, and Sesama of the Romans. Hippocrates and Theophrastus describe it. Herodotus mentions it in his description of the plain of Babylonia (lib. i. c. 193). Pliny writes of it, "Sesamum comes from India, where they extract an oil from it; the colour of its grain is white." In modern times the plant is first described by Prosper Alpinus in his work "De Plantis Egypti." It is one of the most important oleiferous plants cultivated in India, the oil expressed from its seeds being known in commerce under the names of Gingely and Bennie-oil. There are black and white and red seeds, and the first are often called *Kala-til,* a name applied also to the seeds of *Verbesina sativa,* N. O. 120. Under N. O. 153. Cordiaceæ, oil is said to be obtained in the Madras presidency from *C. officinalis,* a doubtful statement if the plant mentioned is the same as *C. Myxa,* Linn. The wood of *Cordia rumphii* smells of Musk. The seeds of *Nicotiana Tabacum,* N. O. 157. Solanaceæ, and of species of *Datura,* N. O. 158. Atropaceæ, yield oil on expression, as oil of Deadly Nightshade, for example. *Antirrhinum majus, Great Snap Dragon,* N. O. 160. Scrophulariaceæ, "is said to be cultivated in Russia for its seeds, which yield an oil little inferior to that produced from olives." (Withering.) Patchouly is a distilled oil, prepared from the herb of *Pogostemon Patchouly,* Lind. N. O. 161. Labiatæ, an order from which various other aromatic volatile oils are also obtained, as oil of Balm or Mélissa, Thyme, Lavender and Spike, Rosemary, Marjoram, Mint, &c. See "Drugs," and "Fruits and Vegetables." *Ocymum sanctum, O. gratissimum, O. Basilicum, Lavandula burmani, Pogostemon heyneanus,* and *Perilla ocymoides,* and other native species of this order are highly fragrant. *Anisochilus carnosum* and *Coleus aromaticus* have been mentioned under "Condiments and Spices." An oil is obtained from the wood of the Teak tree, *Tectona grandis*, N. O. 162. Verbenaceæ. *Aloysia citriodora*, H. Per. *Lemon-scented Verbena*, of the same order, and a native of Peru, yields the distilled oil, Verbena or Vervaine of perfumers, the basis of various "court bouquets." Under N. O. 171. Chenopodiaceæ, *Ambrina anthelmintica* yields an essential oil, which is however used only in medicine. Under N. O. 178. Lauraceæ, Volatile oil is obtained from Cassia, Cinnamon, Sweet Bay (*Laurus nobilis*, Linn.), and Sassafras (*Laurus Sassafras*, Linn.) An expressed oil is also obtained from the berries of *Laurus nobilis*, and from the fruit of the Cinnamon tree. The latter is solid, and is called Cinnamon Tallow, or Suet, in commerce. There is also a distilled oil of the leaf of the Cinnamon tree, often called Clove-oil in commerce, from its resemblance, in odour and effects, to true oil of Cloves. It is lighter than genuine Clove-oil. Camphor is a solid volatile oil, or stearoptine, sublimed from the wood of *Laurus Camphora*, Linn. (*Camphora officinarum*, Nees ab Essen). See "Drugs." *Oreodaphne opifera* of the forests of the Orinoko and Parime yields on a simple incision into the liber, quarts of volatile oil. *Persea gratissima*, W. the Avocado, or Alligator Pear, is mentioned as having an oleaginous fruit. Under N. O. 180. Myristicaceæ, a distilled oil, and also an expressed fatty oil, are obtained from the kernel (Nutmeg) of *Myristica fragrans*, Houtt. and probably also from other species of the genus. See "Drugs." *Virola sebifera* "also yields a fatty oil upon simple immersion (of the seeds?) in water." (Lindley.) Under N. O. 185. Thymeliaceæ, *Sarcostigma kleinii*, W. et A. of this Presidency, and the Deccan generally, has an oily fruit. Under N. O. 190. Santalaceæ, the seeds of *Santalum album* yield a fixed oil, and the wood (Sandal wood) a volatile oil, the Santal of perfumers, used in the composition of Marechale and other old-fashioned scents. See class "Miscellaneous." And "oil is obtained, in Carolina, from the kernels of *Pyrularia pubera*." (Lindley.)

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Aleurites triloba. *W. Three-lobed Aleurites.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. *Akola*, Hind. *Akhoroot*, Beng. *Japhal*, By. *Kara-angolam*, Mal. *Woodooga*, Tel. *Tel-kekune*, Cey.

Habitat. Moluccas, Bengal, Deccan.

Remarks. Called *Belgaum Walnut*, and very generally *Candle-nut Tree*, by Anglo-Indians; the kernels yield the *Kekune*-oil of Ceylon.

Ricinus communis. *Linn. Castor-oil Plant, Palma Christi.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. *Eranda*, Sans. *Bherenda*, Beng. *Arendi*, Beng. Hind. *Citavanako*, *Avanak*, *Pandiavanak*, Mal. *Haralu*, Can. *Sittamunak*, *Valluk*, Tam. *Amadam*, *Sittamindi*, Tel. *Endaru*, Cey.

Khiroa, Cherua, Tehscha, Zœjt, Djar, Arab. *Beedinjeer, Rowgen*, Pers. *Kyet-hsoo*, Burmah. *Jarak, Citavanaca*, Malaya.

Habitat. India.

Remarks. The κρότων of Hippocrates, Herodotus, and Dioscorides; also called κίκι by the Greeks, and Ricinus of the Romans. The Kikayon of the Bible has been thought to refer to the *Palma Christi*, but there is an uncertainty about the identification; and St. Jerome and St. Augustine passed from words to blows regarding it. The appellation *Palma Christi*, has been probably derived from its substitution by Christians on Palm Sunday for true Palm branches, in countries where the latter are not to be found.

> "In Rome upon Palm Sunday
> They bear true palms,
> The Cardinals bow reverently,
> And sing old psalms;
> Elsewhere those psalms are sung
> 'Mid olive branches.
> The holly bough supplies their place
> Among the avalanches,
> More northern climes must be content
> With the sad willow."

Salix caprea, W. *Great round-leaved Willow*, is the species of Willow used in Germany; and Seeman quotes from Miss Baker's "Glossary of Northamptonshire Words," that it is to this day called "Palm" in the counties bordering on the Forest of Arden, thus explaining the passage in "As you like It," in which Rosalind says, "Look here, what I found on a Palm tree!" and which has given literary critics so much trouble. Clare so calls (Simmonds) the Goat Willow:—

> "Ye leaning Palms, that seem to look
> Pleased o'er your image in the brook."

Box would also appear to have been substituted in England. (D'-day Bk.)

Nageia Putranjiva. *Rox. Grey-barked Nageia.*

Linn. Syst. Diœcia Tetrandria.

Vernacular. *Putrunjiva*, Sans. *Pongolam*, Mal. *Kudra-juvi*, Tel.

Habitat. Hindoostan, Coromandel, Concans.

Remarks. The kernel of the fruit is abundantly oleiferous, and the tree is called *Wild Olive*, by Anglo-Indians.

Jatropha Curcas. *W. Angular-leaved Physic Nut.*

Linn. Syst. Monœcia Monadelphia.

Vernacular. *Kanana-kerundum, Nepala*, Sans. *Bag-bherenda*, Hind. Beng. *Erundi*, Dec *Caak-avenako*, Mal. *Mara-narulle*, Can. *Caar-noochie, Caat-amunak*, Tam. *Nepalam, Adivicamida*, Tel. *Ratændaroo*, Cey.

Habitat. South America. Naturalized in Bombay.

Remarks. First mentioned by Monardes. The oil from the seeds is largely used in India for lamps, and is the Seed oil of European commerce. None, I believe, is exported from India. One of the Chinese varnishes is prepared by boiling this oil with oxide of iron. The seeds of *Jatropha glauca,* Vahl. (*J. glandulifera,* Rox.) are said to yield the Addale oil of Madras. The plant is found in this Presidency about Punderpore. It must not be confounded with *J. gossypifolia.* W. *Cotton-leaved Physic Nut* of Brazil, a plant very common in the gardens of the Island of Bombay. The Croton-oil of medicine is obtained from the seeds of *Croton Tiglium,* W. and other species of *Croton.* The seeds of *Hura crepitans,* the *Sand-box tree* of the West Indies, are oleaginous. *Stillingia sebifera* is the *Tallow-tree* of China, its peculiar oil being expressed from the kernel. The seeds also of *Elæococca vernicia* of China, and of *E. verrucosa* of Japan, are oil bearing. Under N. O. 199. Urticaceæ, the seeds of *Cannabis sativa,* W. *Common Hemp,* already twice detailed, yield oil, largely consumed in Russia for lamps; but which I am not aware of being economized in India. Oil of Hops is obtained by submitting the Lupulinic glands found at the base of the scales of the strobilus of *Humulus Lupulus,* Linn. to distillation. Under N. O. 207. Piperaceæ, volatile oils are obtained from the berries of *Piper nigrum,* Linn. *Cubeba officinalis,* Mig. and the immature fruit of *Chavica roxburghii,* Mig. or *Long Pepper.* Under N. O. 208. Myricaceæ, Myrtle Wax, is obtained in abundance from the berries of *Myrica cerifera,* the *Common Candle-berry tree* of North America, and other species. Beech (*Fagus sylvatica*) and Hazel (*Corylus Avellana*) nuts, N. O. 212. Corylaceæ, and Walnuts (*Juglans regia*), N. O. 215. Juglandaceæ, yield oil, the product of the two last being the Nut-oil of commerce. The Coniferous (N. O. 220) oleo-resins, have been referred to under "Gums and Resins." Under N. O. 233. Zingiberaceæ, both a fixed and a volatile oil are obtained from Cardamom seeds. (*Elettaria Cardamomum,* Maton.) Volatile oil of Ginger is obtained from the rhizome of *Zingiber officinale,* Roscoe. Saffron (*Crocus sativus,* Allioni, N. O. 236. Iridaceæ) also yields a volatile oil by distillation with water. Oil of Garlic (*Allium sativum,* N. O. 242. Liliaceæ) is prepared in India for medicinal use by expression. The roots of *Dianella odorata* are fragrant and used in Java for pastilles according to Blume.

N. O. 251. PALMÆ. *PALMS.*

Cocos nucifera. *W. Common Cocoanut.*

Linn. Syst. Monœcia Hexandria.

Vernacular. See "Fruits and Vegetables."

Habitat. East Indies.

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Remarks. The oil is expressed from the kernel of the nut, and is one of the most useful, and most important prepared in India. The following Palms are also valuable for the oil they yield:—

Acrocomia sclerocarpa, Mart. *Great Macaw-tree* of West Indies.
Attalea Cohune, Mart. of Honduras and Panama. Cohune-nut oil.
Copernicia cerifera, Mart. of the Brazils, yields a waxy exudation.
Elæis guineensis, Linn. *Oily Palm* of Guinea.
Elæis melanococca, Gært. *Oily Palm* of West Indies.
Iriartea andicola Spr. (*Ceroxylon andicola,* Humb. et Bonpl.) of the Andes yields a waxy exudation.

Œnocarpus Bacaba.
Œnocarpus Batava, Mart.
Œnocarpus disticha.
Œnocarpus altissimus, Klotzsch.
Œnocarpus bolivianus, Hort.
Œnocarpus caracasanus, Lodd.
Œnocarpus Chiragua, Hort.
Œnocarpus Cubarroo, Hort.
Œnocarpus utilis, Klotzsch.

Of Tropical America are all oleiferous.

Under N. O. 255. Pandanaceæ, the flowering head of *Pandanus odoratissimus,* yields a fragrant oil on distillation, called Keora oil, which will certainly create a *furor* in the fashion, should it come into use in the preparation of bouquets. Under N. O. 258. Acoraceæ, the fresh rhizome of *Acorus Calamus,* yields oil of Sweet Flag by distillation with water. Species of *Cyperus* (N. O. 265) yield essential oils. Under N. O. 266. Gramineæ, *Andropogon Calamus aromaticus,* Royle, is the source of *Roosaketel ; Andropogon muricatus,* Retz, of Essence of Vitivert, or Cuscus, the basis of the once fashionable "*Mousselaine des Indes,*" and *Andropogon citratum,* De C. probably of a portion of Lemon-grass oil. But there is much confusion regarding the plants yielding the grass oils, which will be fully treated of under the "Miscellaneous Class." Two Ferns (N. O. 267) are fragrant, the one *Mohria thurifera* smells of Benzoin, and the other *Aneima tomentosa* of Myrrh.

What is the source of the Agati-oil of Eastern Africa?

In the above list two kinds of oils have been mentioned, the natural vegetable fats or fixed oils, and the volatile, or distilled, or essential oils, sometimes called also essences, although an essence, strictly speaking, is an essential oil dissolved in spirit, and equivalent to the French *Esprit* or *Extrait.* The first alone of those produced in India have been catalogued in detail ; the second, whether Indian or foreign, have been named incidentally only under the *Remarks.* Strictly all mention of them should have been omitted here, as their more proper place is, perhaps, the "Miscellaneous Class." But I found I could not pass the different natural orders without recognizing them, and only the most important of such as are Indian will re-appear under the "Miscellaneous Class," and these not so much for their commercial importance as for the historical interest attached to their sources.

The natural Vegetable Fats, or Fixed oils, are obtained generally by expression, sometimes aided by heat, and in a few cases by boiling the tissue containing them in water. They generally occur in the seed. Their proximate principles as a rule are margarine, stearine, and oleine, of which two are always present; and their consistence depends on the predominating principle, stearine giving their consistence to hard oils, margarine to soft, and oleine to liquid.

Volatile oils, or essences, are prepared by distilling plants, or parts of plants, with water. They are also obtained from the resins; and oleo-resins, called balsams. Some pre-exist in the plants, others as oil of bitter almonds, are only formed during the operation of distillation. They are arranged in three classes: the non-oxegenated, containing carbon and hydrogen, as oil of turpentine; the oxegenated, containing oxygen, in addition to carbon and oxygen, as essence of cinnamon; and the sulphuretted, containing also sulphur, as the volatile oil of garlic and asafœtida. Many deposit a crystalline principle, called stearoptine, of which camphor is an example, and which is also obtained from Anise and Ajwan. In India the volatile oils are seldom obtained isolated, the perfumers being content to communicate their odours to fixed oils, or fats, by *enfleurage*.

In the above list, Essences, which are mere curiosities, have been omitted entirely as Elder-flower, Honey-suckle or Woodbine, Mignionette, Sweet-pea, Pine-apple, Magnolia, Jonquil, Lilac, Tuberose, Geranium, Violet, and Meadow Sweet. Many Essences, it may here be mentioned, bearing the names of plants, are not derived from them, but are prepared artificially, as Volkameria, Hovenia, Eglantine, or Sweet Briar, and Heliotrope. Violet and Geranium are sometimes fictitious also.

The Essences being used as perfumes, all perfumes may be looked for here. Several of those not included under this class were mentioned under "Gums and Resins," as the Storax and Balsam (*i. e.* Balsam of Peru and Balsam of Tolu) of perfumers. The remainder, as Rhodium, Sandal-wood, Orris (the chief ingredient in the bouquet known as Jockey Club and Rowland's "oriental herb"—"Odonto"), Cascarilla, and Alœs-wood; Cedar, will be detailed under the "Miscellaneous Class."

DIVISION I.

Class 4. C.

ACIDS.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Cicer arietinum. *Linn.* *Common Cheek Pea, Common Gram.*

Linn. Syst. Diadelphia Decandria.

Vernacular. See "Pulse."

Habitat. The Mediterranean countries. Widely cultivated in India.

Remarks. See "Pulse." When at Sholapore, some years ago, my Moonshi asked me to lend him some towels to gather "a spirit," which he stated fell at night on fields of growing gram, and which, with water, formed an agreeable drink in the hot season. The cloths were laid over the tender gram, and by the morning were saturated with dew, having an intensely acid taste. This was wrung off, and bottled. Though unfamiliar to Europeans, this substance is well known to natives, and is mentioned by Royle, and others. The acid is said to be the oxalic. The Honorable Mr. Frere informs me that the ryots do not like collecting the acid, as doing so, it is thought, injures the gram. The acid is applied externally as a mild blister. In walking through fields of young gram, I found the blacking of my boots always turned red. Other acid substances have been detailed under "Condiments" and "Sherbets," and the present article should have been placed under the latter, as a separate class of acids, although founded on the highest authority is superfluous.

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DIVISION I.

Class 4. D.

DYES.

N. O. 18. FLACOURTIACEÆ.

Bixa Orellana. *Linn. Heart-leaved Arnotta.*

Linn. Syst. Polyandria Monogynia.

The orange-red, waxy pulp, covering the seeds, separated by maceration in hot water, and made into balls or cakes,—Arnotto, Anatto, Anotta, Roucon, Orellana, Terra Orellana.

Vernacular. *Lut-kun,* Beng. Hind. *Gawpurgee,* Hind. *Kisree,* By. *Kuppa-manhala,* Can. *Korungoomunga,* Mal. *Kooragoomangjul,* Tam. *Jafra,* Tel. *Kaha-gaha,* Cey.

Habitat. West Indies. Cultivated in Mysore, Travancore, Bengal. Seen in Bombay gardens also.

Remarks. First described by Clusius. Besides the use of Arnotto as a dye, it is fraudulently added to butter and to chocolate to heighten their colour. In Hindoostan the wood (*Dar-huld,* vulg.) of species of *Berberis,* N. O. 8, is used as a dye. *Isatis tinctoria, Woad,* N. O. 15, the *ἰσάτις* of Dioscorides, and *Isatis* and *Glastum* of Pliny, yields a blue dye, with which the Britons coloured themselves, the practice indeed being the origin of their name, *britho* being the Celtic of "to paint." *Glastum* is from the Celtic *glas,* blue; whence, also, Glastonbury, Glasnevin (Dublin Bot. Gardens), Glass-Haughton, Glasgow. Fortune states that *Isatis indigotica* is used as a dye in China. *Reseda Luteola,* W. *Weld,* or *Dyers' Yellow-weed,* of Britain, N. O. 17. Resedaceæ, affords a beautiful yellow dye, from which Dutch Pink is prepared. *Cochlospermum tinctorium,* Walper, N. O. 19, of Senegambia, is used as a dye; also *Polygala tinctoria,* Vahl. N. O. 22, in Arabia; the flowers of *Althæa rosea, Hollyhock,* and *Hibiscus Rosa-sinensis, Chinese Hibiscus,* N. O. 30 are used for their colour; the bark of *Elæocarpus Hinau,* N. O. 33. Tiliaceæ, is used in New Zealand as a dye, and leaves of *Vallea cordifolia* in Peru; Gamboge the gum-resin of *Hebradendron cambogioides,* Graham,

N. O. 42, of Siam; and *Cissus tinctoria*, N. O. 53, in the Brazils. The Turks use the seeds of *Peganum Harmala*, N. O. 62, for dyeing red. With *Euonymus tingens*, N. O. 68, the Hindus mark the *tika* on their foreheads. *Trichilia Catigoa*, N. O. 50, stains leather bright yellow. French Berries, *Graines d'Avignon*, Turkey Berries, or Yellow Berries, are the unripe berries of *Rhamnus infectorius*, *R. amygdalinus*, and *R. saxatilis*, N. O. 70. The juice of the berries of *Rhamnus catharticus*, mixed with gum-arabic and lime water, and evaporated, constitutes Sap-green or Bladder-green. Green-Indigo, or Chinese Green dye, is probably prepared from species of *Rhamnus*. Under N. O. 72, *Rhus Cotinus* (κοκκυγία, Theophrastus; *Coccygia*, Pliny) is the source of Venetian Sumach, or Young Fustic, a bright yellow dye. For old Fustic, see "N. O. 200."

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Adananthera pavonina. *W.* *Yellow-flowered Adenanthera.*

Linn. Syst. Decandria Monogynia.

The wood,—(False) Red Sanders, or (False) Red Sandalwood.

Vernacular. *Koochunduna.* Sans. Hind. *Ructa-chnnduna, Ranjuna*, Beng. *Mandateea*, Can. *Manseni-kotta*, Tel. *Mansiadi*, *Cey.*

Habitat. East Indies.

Remarks. First described by Van Rheede, and Rumphius. See below the synonymes of *Pterocarpus santalinus*, Linn. the wood of which is Red Sanders. *Ranjun* is also a name of *Ixora Bandhuca*, N. O. 115. See "Fruits and Vegetables."

Butea frondosa. *Rox.* *Downy-branch Butea.*

Linn. Syst. Diadelphia Decandria.

The flowers,—Pulas, Tisso, or Madooga flowers.

Vernacular. See "Drugs."

Habitat. India.

Remarks. First noticed by Van Rheede. The flowers of *B. superba*, Rox. (*Tiga-maduga*, Tel.) are also used.

Cæsalpinia Sappan. *Linn.* *Narrow-leaved Brasiletto.*

Linn. Syst. Decandria Monogynia.

The wood,—Sappanwood.

Vernacular. *Patunga*, Sans. *Bukkum*, Beng. Hind. *Puttung*, Dec. *Tsiapangum*, Mal. *Patinga-cuttay*, Tam. *Bukkapa*, Tel. *Patangee*, Cey. *Sapang*, Malaya. *Sachang*, Java. *Samya*, *Roro*, Moluccas. *Lolan*, Amboyna. *Sibukao*, Philippines

Habitat. East Indies.

Remarks. First mentioned by Abulfadil under the name of Bukum Brazil wood is from *Cæsalpinia brasiliensis;* Brasiletto wood from *C. bahamensis,* and Nicaragua wood from *C. echinata.*

Indigofera tinctoria. *W. East Indian Indigo.*

Linn. Syst. Diadelphia Decandria.

The prepared juice,—Indigo.

Vernacular. *Nili,* Sans. *Neel,* Beng. Hind. Dec. *Neelum, Averie,* Tam. *Neelee,* Tel. *Nil,* Cey. Arab. Pers. *Taroom,* Malaya.

Habitat. East Indies. Wild in the Concans, but not cultivated.

Remarks. Indigo is the Indicum of Pliny, and τὸ ἴνδικον βαφικὸν of Dioscorides. There are more than one hundred species of *Indigofera,* natives of the East Indies, Arabia, Africa, and equinoctial America. *East Indian Indigo* is the species chiefly cultivated in India, and *I. Anil,* W. *West Indian Indigo* in the West Indies. The latter is also, with other species, cultivated in India. Indigo is one of the most profitable products of India. In Nubia *Tephrosia Apollinea,* De C. in the countries of the Niger *T. toxicaria,* and in Ceylon, according to De Candolle, *T. tinctoria* furnish Indigo. *Baptisia tinctoria,* R. Brown, supplies it in the Federal States of America. All these are Leguminous plants. The dyes furnished also by *Wrightia tinctoria,* Don, N. O. 141, of India, *Polygonum tinctorium* of Europe, and *Ampelygonium chinense,* N. O. 176, and *Gymnema tingens* of Pegu, and *Marsdenia tinctoria* of Sumatra, N. O. 140, are of ten named as kinds of Indigo. *V. infra.*

Pterocarpus santalinus. *Linn.*

Linn. Syst. Diadelphia Decandria.

The wood,—Red Sanders, or Red Sandal-wood.

Vernacular. *Koochunduna, Tilaparni, Ranjana, Ructa-chandana,* Beng. *Rukhto-chandun, Undum,* Hind. *Lalchundun,* Dec. *Ooruttah-chundanum,* Mal. *Whonnay,* Can. *Segapoo-shandanum,* Tam. *Kuchandanum,* Tel. *Ruct-handoon,* Cey. *Sundel-ahmer,* Arab. *Buckum,* Pers. (Ainslie.)

Habitat. Coromandel, Paulghat, Ceylon.

Remarks. Sprengel considers this to be the Almug tree of 1 Kings x. 11, now identified with *Santalum album,* N. O. 190. Santalaceæ. See "Miscellaneous Class." Sprengel also identifies it with the Sundul of Avicenna, and it may be the "Red Sandalwood" he mentions, together with "White." (Lib. ii. Tract. ii. ch. 657.) It may however be the wood of *Adenanthera pavonina,* or even of *Cæsalpinia Sappan* (*v. supra*). Of other Leguminous plants *Baphia nitida* of Sierra Leone and the Gaboon country furnishes Barwood or Camwood, with which Bandana handkerchiefs are dyed; *Genista tinctoria*, W. *Dyers' Green-weed* of Britain, a yellow, and with Woad a green dye; and *Hæmatoxylon campechianum* of Campeachy, Logwood. Under N. O. 76, the bark of *Photinia dubia*, Lind. is said to be used in Nepaul as a dye.

N. O. 78. LYTHRACEÆ. *LOOSESTRIFES.*

Grislea tomentosa. *Rox. Downy Grislea.*

Linn. Syst. Octandria Monogynia.

The petals.

Vernacular. *Ugni-jwala, Dhatri-pooshpika,* Sans. *Dhub, Dhangaphul, Dhæphool,* Beng. *Dhaitee, Dhauree,* By. *Sirinjie,* Tel.

Habitat. Hindoostan and Deccan.

Remarks. The petals yield a valuable red dye of considerable importance, but unknown beyond India.

Lawsonia alba. *Lam. Henna Plant.*

Linn. Syst. Octandria Monogynia.

The leaves,—Henna.

Vernacular. *Sikachara,* Sans. *Shudee,* Beng. Hind. *Mayndie, Hina,* Hind. *Mailanschi, Ponta-letsche,* Mal. *Maroodnie,* Tam. *Goounta-chettoo,* Tel. *Gorunta-gorinta,* Cey.

Habitat. The East Indies; Northern Africa, Cyprus. Usually found in gardens.

Remarks. Solomon is supposed by Sprengel to refer to the Henna plant in his Epithalamium (i. 14): "My beloved is unto me as a cluster of Samphire (sometimes translated Cypress) in the vineyards of Engedi." It is undoubtedly the κύπρος of Dioscorides (i. 124), and "Cyprus in Egypt" of Pliny. It is mentioned by Avicenna also under the name of Henna. Lamert's species includes *L. inermis* and *L. spinosa* of other botanists. The women of Egypt, and of other eastern countries, tinge their fingers and toes, and often hands and feet, with the orange red dye of the Henna plant, and hence probably the designation of Aurora as "rosy fingered." In Egypt, also, on a certain night preceding the wedding, Henna is applied with linen bandages to the hands and feet of the bride, until the next morning, when they are of a bright orange, red colour; and the night is called "the Night of the Henna."

N. O. 82. MELASTOMACEÆ. *MELASTOMADS.*

Memecylon tinctorium. *Kœnig.*

Linn. Syst. Octandria Monogynia.

The leaves.

Vernacular. *Kanyavuh*, Mal. *Casau-cheddy*, *Anjun*, By. *Kayampoovoocheddi*, Tam. *Alli-cheddu*, Tel. *Dœdi-kaha*, Cey.

Habitat. Malabar, Travancore, Coromandel.

Remarks. The fruit is edible, and hence Roxburgh's name *M. edule.* The wood is called *Kurpa* in Bombay. *Cremanium reclinatum* and *C. tinctorium* of Peru, and *Miconia fulva*, β *tinctoria* of Brazil, yield yellow dyes. *Blakea parasitica* of Guiana yields a red dye. The juice of *Tococa gianengsis* is used in Demerara as ink. The carmine fruit of *Opuntia Tuna*, N. O. 102, is used in Naples as a water colour.

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Morinda citrifolia. *Linn.* *Broad-leaved Morinda.*

Linn. Syst. Pentandria Monogynia.

The root,—Morinda.

Vernacular. *Al*, *Atchy*, Hind. *Aal*, *Bartoondie*, By. *Ca-da-pilva*, Mal. *Manja-pavattay*, *Noona*, Tel. *Ahu-yaha*, Cey.

Habitat. India. Cultivated in Kandeish.

Remarks. First described by Bontius. The wood of *Morinda tomentosa*, Heyne, and root of *M. umbellata.* Linn. both of Travancore, and the latter known also in the Deccan under the name of *Chota-alka* also yield a red dye. *Morinda tinctoria*, Rox. is common in every part of India, and yields a dye-root known under the name of *Ach.* Probably all the species of *Morinda* might be used as dyes, nearly all are called *Al.*

Hedyotis umbellata. *Linn.* *Common Indian Madder.*

Linn. Syst. Tetrandria Monogynia.

The root,—Chay root.

Vernacular. *Saya*, *Emboorel-cheddie*, Tam. *Cheriveloo*, Tel. *Sayanmul*, Cey.

Habitat. Malabar, Coromandel.

Remarks. First described by Plukenet. See "Drugs" *Hydrophylax maritima*, Linn. of the Coromandel coast is also a dye plant. The fruit of *Genipa americana*, yields the beautiful violet blue, Lana or Caruto dye of Demerara and Berbice. *Psychotria Simira* of Brazil yields a red dye; and *Condaminea tinctoria* of the countries of the Orinoco is also used as a dye. The fruit of *Gardenia radicans* is used in China.

N. O. 116. GALIACEÆ. *STELLATES.*

Rubia Munjista. *Rox.* *Heart-leaved Madder.*

Linn. Syst. Tetrandria Monogynia.

The root,—Munjeet.

Vernacular. *Munjith-aroona,* Beng. *Munjittee,* Hind. *Poout,* Mal. *Manjittee, Sawil-coodie,* Tam. *Mandestie,* Tel.

Habitat. Siberia. Cultivated in Hindoostan and the Deccan.

Remarks. Munjeet, Morinda, and Chay, are often included under the general term of East Indian Madder. The *Dyers' madder* of Europe is yielded by *Rubia tinctorum,* Linn. the ἐρυθρόδανον of the Greeks, the Erythrodanum and Rubia(?) of the Romans, and Warentia of the Capitularies of Charlemagne. Garancine is a French dye prepared from Madder with sulphuric acid. "*Rubia angustissima* of Tong Dong has also highly coloured roots, and *Rubia Relboun* is the madder of Chili." (Lindley.) (*Vide* N. O. 160, *infra.*) Sir John Franklin (*teste* Simmonds) states that the Crees obtain a red dye from the roots of *Galium boreale,* and *G. tinctorium.*

N. O. 120. COMPOSITÆ. *COMPOSITES.*

Carthamus tinctorius. *W. Officinal Carthamus.*

Linn. Syst. Syngenesia Æqualis.

The flowers,—Safflower.

Vernacular. *Cusumba, Kamalottara,* Sans. *Koosumbha,* Beng. Hind. Tel. Dec. *Kajeerah,* Beng. *Koosum,* Hind. *Seendoorkum.* Tam. *Cossumb,* Cey. *Usfur,* Arab.

Habitat. Egypt. Widely cultivated in India.

Remarks. The κνῆκος of the Greeks. Bastard Saffron is prepared from this dye, and Pink Saucers, Spanish Wool, *Crépon rouge,* and other kinds of Rouge. See "Oils and Oil Seeds." The flowers of *Calendula officinalis,* W. *Common Marygold* (Caltha of Romans) of this order are also used to adulterate Saffron; and *Serratula tinctoria,* W. *Common Sawwort* of Britain yields a yellow; and the leaves of *Chicorium Intybus,* Linn. *Wild Succory* of Europe and Asia, a blue dye similar to Woad. *Madia sativa* is used in Russia as a dye stuff. Under N. O. 126. Styraceæ the bark of *Symplocos racemosa,* Rox. is said to be used as a dye in Bengal under the name of *Lodh,* but is probably simply a mordant as suggested by Roxburgh. *S. tinctoria* is used for dyeing in Carolina. Under N. O. 133. Ebenaceæ, the wood of species of *Diospyros* is sometimes used for dyeing.

N. O. 137. JASMINACEÆ. *JASMINWORTS*

Nyctanthes Arbor-tristis. *Linn. Square-stalked Nyctanthes.*

Linn. Syst. Diandria Monogynia.

The tube of the flowers.

Vernacular. *Shephalika,* Sans. Beng. *Singahar, Shiooli,* Beng. *Hursinghar,* Hind. *Paharbuttee,* By. *Munja-pumerum,* Mal. *Pagala-mully,* Tam. *Shephalika, Sepala,* Cey.

Habitat. East Indies.

Remarks. First described by Garcias ab Orto. Under N. O. 140. Asclepiadaceæ, *Gymnema tingens* of Pegu, and *Marsdenia tinctoria* of Sumatra yield blue dyes.

N. O 141. APOCYNACEÆ. *DOGBANES.*

Wrightia tinctoria. *Don*. *Dyers' Wrightia*.

Linn. Syst. Pentandria Monogynia.

The extract of the leaves,—Pala Indigo.

Vernacular. *Hyamaraka* ? Sans. *Bhoorcooree, Kala-koora, Kala-kooda*, By. *Pala, Palak, Palavay-raynoo*, Tam. *Tshil-ankaloo, Chit-ankaloo, Amkuda, Tedlapala*, Tel.

Habitat. Concans, Malabar, Travancore, Coromandel, Cochin China.

Remarks. Under N. O. 144, Bignoniaceæ, *Bignonia Chica*, Humb. et Bonp. of meridional America yields a red dye called *Chica*, and *Jacaranda ovalifolia* the Green Ebony of commerce. Under N. O. 154. Boraginaceæ, *Anchusa tinctoria*, W. *Dyers' Bugloss* of Britain (one ἄγχουσα of the Greeks) is the source of Alkanet. I have received also as Alkanet a root used in the Punjab as a dye. It is probably the root of *Onosma emodi*, Wall. Other species of *Onosma* and *Echium rubrum*, and *Lithospermum tinctorium* are in Europe and elsewhere substituted for Alkanet. *Phelipœa lutea*, N. O. 159. Orobanchaceæ, dyes black the ropes prepared in Egypt from the fibre of the Doum Palm. The roots of *Calceolaria arachnoidea*, N. O. 160. Scrophulariaceæ, yield a crimson dye; called *Relbun* in Chili. (*Vide* N. O. 115, *supra*.) The yellow flowers of *Linaria vulgaris* of the same order are also sometimes used in Europe for dyeing. Under N. O. 164. Acanthaceæ, a species of *Ruellia*, produces a blue dye in China called *Tienching ;* a name the Chinese also apply to the Woad they obtain from *Isatis indigotica*. In Assam also a blue dye called *Room* is obtained, according to Griffith, from a species of *Ruellia*. (Lindley.) Under N. O. Phytolacaceæ, the berries of species of *Rivinia* yield a rich red dye. Under N. O. 176. Polygonaceæ, *Polygonum tinctorum* is cultivated in Europe for its blue dye, resembling Indigo ; and other species also yield it. Under N. O. 185. Thymelaceæ, *Daphne Gnidium* and *Passerina tinctoria* of South Europe, yield a dye. The former is the *Casia herba* of the Romans, and θυμελαία of Dioscorides.

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Rottlera tinctoria. *Rox*. *Dyers' Rottlera*.

Linn. Syst. Diœcia Polyandria.

The power on the capsule,—Kamila Capila.

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Vernacular. *Poonag, Poonaga, Keshoor,* Sans. Beng. *Cumul,* Hind. *Toong,* Beng. *Shendree,* By. *Poonagum, Corunga-mun-jemarum,* Mal. *Capilapodie,* Tam. *Vassuntagunda, Chendurapu, Veligarum, Kunkumapuova,* Tel. *Ham-parandælia,* Cey.

Habitat. Concans, Travancore, Coromandel, Mysore.

Remarks. See "Drugs." *Ricinus Tanarius* of Sumatra is used there as a dye. It is the *Tanarius minor* of Rumphius (lib. v. fig. 121). Crawfurd states that the *Tanarius major* of Rumphius (lib. v. 122), which I cannot identify, is used also as a dye in Sumatra under the name of *Laka.* *Crozophora tinctoria* (ἡλιοτρόπιον τὸ μικρὸν, Dios.) of South Europe is the source of Turnsole.

N. O. 200. ARTOCARPACEÆ. *ARTOCARPADS.*

Urostigma religiosum. *Mig.*

Linn. Syst. Polygamia Monœcia.

The colouring matter extracted from the Stick Lac,—Lac Dye Lac Lake.

Vernacular. *Pippula,* Sans. *Ashwertha,* Beng. *Pippul,* Hind. *Ani-peepul,* Beng. *Arealu,* Mal. *Arasum-marum,* Tam. *Ray, Raghie,* Tel. *Bogaha,* Cey.

Habitat. India, within and beyond the Ganges.

Remarks. Of Western writers, first described by the Arabs (Ab Hanifa). Amongst the Indians it is of immemorial renown, but I do not know in which of their books it is first noticed. The term Lac, applied to Gum-lak by the Hindus, is the same as *lac,* an hundred thousand, from the multitude of insects found in it. Lac-lake, or Lac-dye, is dissolved out of the Lac with boiling water, and then obtained by evaporation. The colouring matter is derived from the female of *Coccus Lacca.* Other insects of this genus also afford a similar colouring matter. The female of *Coccus Ilicis* found on *Quercus coccifera,* W. the *Kermes Oak* is Kermes: the female of *Coccus Cacti* found on *Opuntia cochinillifera,* the *Nopal* of Mexico, is Cochineal; and the female of *Coccus polonicus,* found on the roots of *Scleranthus perennis,* according to some, but of *Polygonum cocciferum* according to others, and probably also other species of root-Cocci as they are called, are the Scarlet Grains of Poland. Cochineal was not known to Europeans before 1518, although often called *Coccus Indicus tinctorius,* and *Ficus Indicæ grana:* but similarly we speak of Maize as Indian and Turkey corn, of species of *Tropæolum* as Indian Cress, and call the Turkey by that name, and the French, *Cocq d'Inde,* although Turkeys, Indian Cress, and Maize are indigenous to America. Indian, in these and analgous instances, simply means rare, precious, large, and the like. Kermes, which before the introduction of Cochineal from America, was universally employed for dyeing scarlet, now obtained from

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the latter has been known and used from the earliest ages. It is the *Tola* of Moses, wherewith the hangings of the tabernacle and the sacred vestments of the Hebrew priesthood were twice dyed. Sardis was celebrated for this scarlet dye, as Tyre and Crete for their resplendent purples; the Tyrian being obtained from shell-fish (as was also the red (?) of Tarentum), and the Cretan tincture from a plant which Theophrastus, Dioscorides, and Pliny, respectively, call *τὸ πόντιον φύκος*, *φύκος θαλάσσιον*, and phycos thallassion, but which was however not a sea-weed (*i. e.* Algal), but a Lichen, identical probably with one of the species from which the Orchil purple of modern art is prepared. (See N. O. 273.) That the celebrated purples of the ancients were amethystine, or violet in hue, and not red as some have stated, is directly proved by their comparing the Tyrian with the Cretan purple, the latter of which they considered the more brilliant. We have an oblique confirmation of this argument in the story told by Herodotus of the admiration of Darius for the scarlet cloak (*χλανὶς πυῤῥά*—amiculum rutilum, Latin trans.—scarlet cloak, Rawlinson's trans.) of Syloson the Samian, the fiery colour of which was probably derived from Kermes, and which certainly would not have excited the cupidity of Darius had the dye of Tyre been red.

They generally describe Kermes as a berry, and they have been sneered at for this; but considering its ambiguous development, and that a modern writer has from personal observation of the insect in Algeria expressly described it as a berry, the sneer is supercilious. Coccus, also, besides being used by them for berry generally, meant especially Kermes. Dioscorides describes it under the name of *κόκκος βαφικὴ*, and states that it was found in Spain, Galatia, Armenia, Asia (Asia proconsularis), and Cilicia; and in Cilicia, he writes, the women gather the Kermes with their mouths, and call it Coccus. Pliny in one place (lib. xvi. 12) describes it thus—"Granum hoc, primoque ceu scabies fruticis, parvæ aquifoliæ ilicis: cusculinum vocant." Again (lib. ix. 65)—"Coccum Galatiæ rubens granum, ut dicemus in terrestribus, aut circa Emeritam Lusitaniæ, in magna laude est." Again (lib. xxii. 3)—"Atque ut sileamus Galatiæ, Africæ, Lusitaniæ granis, coccum imperatoriis dicatum paludamentis." Again (lib. xxiv. 4)—"Coccum ilicis vulneribus recentibus ex aceto imponitur. * * * Est autem genus ex eo in Attica fere et Asia nascens, celerrime in vermiculum se mutans, quod ideo solecion vocant." From Pliny we learn that Kermes was obtained from Africa, Attica, and Lusitania—and it is found in all these countries, and in those mentioned by Herodotus, and throughout the Levant, and in Persia at present. Beckmann states that it is indigenous also to India, but I find no confirmation of the assertion.

The Arabic name of the insect, and it has now passed to Cochineal, is *Kirmij;* and hence it is said *vermeil, vermilion,* and *carmine* are derived. But *Quer* is the Celtic for Oak, whence *Quercus,* and *Mes* the Celtic for Acorns, and hence, perhaps as Beckmann insinuates, *Kermes*—*i. e.* Oak-berry. It is significant at least that the Arabs received both the dye and its

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name from Armenia, and that the latter only became common in Europe on the subjugation of Spain by the Moors. *Vermilion* is undoubtedly the same as the Latin vermiculum, and the last passage quoted from Pliny indicates how that word came to signify scarlet. Vermiculum in fact in the middle ages signified Kermes, " and on that account cloth dyed with them was called *vermiculata*." The French term *vermilion* also originally signified Kermes, and from them was subsequently traversed to Red Sulphuret of Mercury or Cinnabar, a pigment known from the earliest times, it being mentioned by Jeremiah in his picture of a house " ceiled with cedar and painted with *vermilion* ;" and by Ezekiel, when referring to the carvings of " men portrayed upon the wall,—the images of the Chaldeans portrayed with vermilion," and which portraitures, in carving and in paint, have survived to these times.

Thus the word Kermes itself is used to designate Red Antimony, and plants with red flowers, as *Passiflora kermesina,* L. K. et Otto. Coccus, again, it is interesting to observe, has given rise to such terms as *coccinum, coccineus,* scarlet ; and flowers having scarlet flowers, or berries, frequently have the specific designation of *coccinea,* and *coccifera,* respectively. Is the expression in-grained, from granum, the Kermes dye ?

It seems doubtful then that *vermilion* is derived from the Arabic *Kirmij*. It would appear rather to have originated in the Latin *Vermes,* and all may have come from the Celtic *Quermes*. *Quermes* meant Oakberry, this Oak-berry was evidently a worm, and from it was formed the Latin *vermes* on one side, and the Arabic *Kirmij* on the other. It is remarkable at least that the Hebrew for Kermes, viz. *Tola,* means worm ; and it is deserving of note also that several words in Arabic, with the same root as Kermes, have a more or less direct reference to the colour red.

Maclura tinctoria of equinoctial America is an Artocarpad, and the source of the dye-wood Fustic, or Old Fustic as it is often called, in contradistinction to Young Fustic or Venetian Sumach, the wood of *Rhus Cotinus* of Zante, N. O. 71. The fruit of *Maclura aurantiaca,* the *Osage Orange,* is filled with a bright yellow pulp used by the Osage savages as a war paint. Under N. O. 207. Piperaceæ, the berries of *Artanthe crocata* are used for dyeing yellow. Where? Under N. O. 212, the yellow dyeing-bark Quercitron is derived from *Quercus tinctoria*. Flavine, an American yellow dye, is supposed to be prepared from Quercitron. *Quercus coccifera* is the *Kermes Oak* already mentioned. The bark of *Phyllocladus trichomanoides,* N. O. 921. Taxaceæ, yields a red dye.

N. O. 233. ZINGIBERACEÆ. *GINGERWORTS.*

Curcuma longa. *Ros. Long-rooted Turmeric.*

Linn. Syst. Monandria Monogynia.

The rhizome,—Turmeric.

Vernacular. *Peeta,* Sans. *Hurridra,* Beng. Sans. *Huldi,* Sans. Beng. Hind. *Hulud,* Dec. *Arsina,* Can. *Mangellacua,* Mal. *Munjil,* Tam. *Passapoo, Pampi,* Tel. *Haradul, Haran-haha,* Cey. *Zirsood, Urook-us-sefer,* Arab. *Zirdchoobeh,* Pers. *Coonhet,* Malaya.

Habitat. Cultivated in India, Java, China, Cochin-China.

Remarks. The κύπειρος ἰνδικός of Disoscorides, and "Cypira herba Indica," of Pliny. *Curcuma* is from Kirkum, the Persian for Saffron. Of Turmeric *quasi* "Terra marita," Royle writes, "it is remarkable that in Persian works, *Khaldoonion tomagha* is assigned as its Greek name; in the *Toght-ul-Mumineen,* the description by Dioscorides of *Chelidonium majus,* is translated and applied to the turmeric. But in the *Mukhzun-ul-udwieh* a true description is given of this substance, but the corrupt altered form of χελιδόνιον τὸ μέγα is equally applied." The plant is called *Crocus Indicus* in old books; and it is scarcely necessary to remark that the rhizome dyes a beautiful, but unfortunately not a very, permanent yellow.

N. O. 236. IRIDACEÆ. *IRIDS.*

Crocus sativus. *Allioni. Saffron Crocus.*

Linn. Syst. Triandria Monogynia.

The dried stigmata,—Saffron.

Vernacular. *Kasmirajamma, Kunkuma,* Sans. *Zofran, Keysar,* Hind. *Khoongoomapoo,* Tam. *Khoonkoomapoo, Kunkuma,* Tel. *Kohon,* Cey. *Koorkum, Zafran,* Arab. *Kerkum, Zafaran? Abeer?* Pers. *Thanwen,* Burmah. *Saffaron, Connyer,* Malaya.

Habitat. Asia Minor; Cashmir? Naturalized over temperate Europe.

Remarks. The *Carcos* (Calmet) of the "Song of Songs" of King Solomon, and κρόκος of Homer, and the Greeks. Notwithstanding that the Crocus is a common flower in England, and that we have a town called Saffron-Walden, the Crocus is not indigenous to our country, nor to Western Europe. Curiously, it is not even to be found about Saffron-Walden. I have suggested Cashmir as a habitat, from having read that Kalidasa the Indian poet describes the living flower. The ancients made great use of Saffron in the preparation of salves, as the Diacrocos, and in perfumery and cookery, the latter uses being evidence of their uncleanliness and low tastes. It may be said that moderns employ Saffron in cookery and confectionery, but in cookery I believe only in the flatulent season of Lent, when Tansy cakes even become a judicious adjunct to "fish and pulse." It is not very largely used as a dye, and is adulterated often with the flowers of *Carthamus tinctorius,* W. *Safflower* (*Crocus Saracenicus, Crocus Germanicus*), and *Calendula officinalis,* W. *Common Marygold,* as stated under N. O. 120. Under N. O. 241. Bromeliaceæ, "a yellow colour is extracted in Brazil from the root of *Billbergia tinctoria.*" Under N. O. 242. Liliaceæ, the resin of the Australian Xanthorrhæas, like many other resins, are used as dye stuffs.

N. O. 273. LICHENES. *LICHENS.*

Rocella montagnei. *Belanger.*

Linn. Syst. Cryptogamia.

The plant.

Vernacular.

Habitat. India,—on the trunks of Mango trees.

Remarks. This is one of the Orchella or Orchilla weeds, from which Orchill, Cudbear, and Litmus, or Lichen blue, are prepared. Some of the Lichens from which they are prepared are called Rock Mosses. Pereira gives the following list of Orchella Weeds and Rock Mosses :—

ORCHELLA WEEDS.

Rocella tinctoria, De C. Cape de Verde, Canary, Corsican, Sardinian, Azores, Mogadore, a portion of Madeira, and perhaps a portion of American Orchella.

Rocella fuciformis, De C. Angola, Madagascar, a portion of Madeira, and a portion of American Orchella.

There is also Mauritius Orchil.

ROCK MOSSES.

Lecanora tartarea, Ach. *Tartareous Cudbear.*

Gyrophora pustulata, Ach.

Parmelia perilata, Ach.

And besides these we have Corsican, Sardinian, and Norwegian Rock Mosses.

Orchil is a liquid pulp prepared by the mutual action of tinctorial lichens, air, and an ammoniacal liquor. Cudbear is similarly prepared, and is in the form of paste as well as liquid. Litmus occurs in small, rectangular, blue cakes, imported from Holland. It is often called Turnsole, because it was once suspected to have been prepared from French rags (*tournesol en drapeau*) dyed in the blue juice of *Croton tinctorium,* Linn. *(Crozophora tinctoria,* Juss.) of South Europe, a plant allied to *Crozophora plicata,* Juss. (*Croton tinctorium,* Lam.) of Western India. Turnsole is the common name of plants of the genus *Heliotropium,* plants described by Theophrastus, Dioscorides, and Pliny, under that name. But Sprengel identifies, *Croton tinctorium* with Dioscorides' *ἡλιοτρόπιον τὸ μικρὸν,* and Litmus is called Succus Heliotropii in old books. *Rocella tinctoria* is probably the *φύκος θαλάσσιον, φυόμενον ἐν* Κρήτη, of Dioscorides : and used there in olden times for dyeing purple cloths.

Many astringent barks used for dyeing, have been omitted from the above list, as they must be detailed under Tans.

DIVISION I.

Class 4. E.

TANS.

N. O. 25. TAMARICACEÆ. *TAMARISKS.*

Tamarix Furas.

Tamarix indica. *Rox. v.* **gallica.** *Linn. Indian Tamarisk.*

Tamarix dioica. *Rox.*

Linn. Syst. Pentandria Trigynia.

The galls.

Vernacular. See "Drugs."

Habitat. The Mediterranean countries, Arabia, Sindh, and Rohilcund.

Remarks. The galls called *Chotee-mue* are from *T. Furas,* and those called *Burree-mue* from *T. indica,* and it would appear from *T. dioica* also. In the bazars we find also the following Galls :—

N. O. 71. ANACARDIACEÆ.

Gool-i-pista, the galls of *Pistacia vera.* Linn.

Kakrasingee, the galls of *Rhus Kakrasingee.* Rox.

N. O. 212. CUPULIFERÆ.

Maapul, the galls of *Quercus infectoria.* De C.

N. O. 251. PALMÆ.

Mochurrus, the galls of *Areca Catechu.* W.

N. O. 70. RHAMNACEÆ.

Zizyphus xylopyra. *W. Gootee* of Bombay. The nuts are said by Dalzell and *teste* Dr. Gibson to be used for blackening leather. See class "Miscellaneous."

The bark or wood of the plants following are also used as tans :—

N. O. 33. TILIACEÆ.
Elæocarpus Hinau, A. Cunn. in New Zealand.
Luhea paniculata, Mart. et Zucc. in Brazil.

N. O. 34. DIPTEROCARPACEÆ.
Shorea robusta. Gært. (*Saul*) in India.

N. O. 64. XANTHOXYLACEÆ.
Xanthoxylum chloroxylum, De C. in the Caribæan isles.

N. O. 65. OCHNACEÆ.
Coriaria myrtifolia, Linn. in the Mediterranean countries.

N. O. 71. ANACARDIACEÆ.
Buchanania latifolia. Rox. (*Chirongee*) in India.
Rhus coriaria, W. in Asia Minor, and Persia : used also in India.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Acacia Catechu. *Will.* *Medicinal Catechu.*

Linn. Syst. Polygamia Monœcia.

The extract of the wood,—Catechu.

Vernacular. The tree,—*Khadira*, Sans. *K'hyar*, Hind. *Khuera*, Hind. Beng. *Kair*, *Khadera*, By. *Wothalay*, Tam. *Podeelmaum*, Tel. *Khehiree*, Cey. *Shabin*, Pegu. Extract,—*Kat*, *Kuth*, *Khuer*, Vulg.

Habitat. The East and West Indies.

Remarks. See "Drugs." The Edinburgh College defines Catechu to be the extract of the wood of *Acacia Catechu*, of the leaves of *Nauclea Gambir*, Hunter (N. O. 115. Cinchonaceæ), of the Eastern Archipelago, and of the Kernels of *Areca Catechu*, W. (N. O. 251. Palmæ) of the East Indies. That obtained from the second source is generally called Gambir and *Terrajaponica*, from its once being supposed to be Japan earth. The following are the kinds of Catechu in the Museum collection :—

a. From *Acacia Catechu.*

1. *Kauchoo* of Dharwar, flat, round cakes, two inches in diameter, and one inch thick ; shiny, dark brown in colour, like dried blood, and covered with *bajree* (?) husks.

2. From the Southern Concan, similar to last in form, size, and colour, but covered with *paddy* husks.

3. From Khandeish—in angular grains, about the size of garden gravel : pale earthy brown internally, darker externally.

4. From Surat—in irregular lumps, from the size of a hazel to that of a walnut.

5. From Singapore (*i. e.* Pegu)—in masses, dark brown in colour, like dried blood, shiny, and covered with the leaves of *Nauclea brunonis.*

β. From *Nauclea Gambir.*

1. Circular lozenges, one-third of an inch in diameter, and moulded round the border : very pale earthy colour, and friable. 2. In cubes darker than last, and harder.

γ. From *Areca Catechu.*

Kasu from Ceylon, in circular flat cakes, like the *Kauchoo* of Dharwar, but covered with paddy husks, and exhibiting white crystalline grains internally.

Besides the above, the following kinds are found in commerce :—

α. From *Acacia Catechu.*

1. Pale and dull—in square cakes, 2 inches long, 2 broad, and 1 deep, exported from Bahar and Bengal.

β. From *Nauclea Gambir.*

1. In cylinders, or discs, pale, dull pinkish in colour, and marked with the impression of some coarse cloth.

γ. From *Areca Catechu.*

1. *Coury*, much paler than Kassu.

δ. From *undetermined sources.*

1. Brown Catechu in conical masses from Siam.

2. Black mucilaginous Catechu ; probably *Akakia*, the extract of the pods of *Acacia arabica.*

The following Leguminosæ yield Tans also:—

Acacia arabica. W. The bark. The pods also known to tanners as Neb-neb, yield an astringent extract, sold in Bombay under the name of *Akakia.* See "Drugs."

Butea frondosa. *Rox.* and other sps. The concrete exudation, being a kind of Kino. See "Drugs" and "Gums and Gum Resins."

Cæsalpinia coriaria, W. of Curaçao, Carthagena, and the West Indies.

The pods, Libi-dibi, or Divi-divi, or Libi-divi. Grows luxuriantly in Bombay.

Cæsalpinia (*Papai?*) The pods, Pipi. I find Pipi attributed to *C. Papai* in popular books only.

Cassia auriculata. Linn. *Turwur* of the Deccan. The seed and bark. See "Drugs."

Mora excelsa, Walpers of Guiana.

Prosopis Algaroba of South America. The pods, Algaroba, or Algarobilla.

Pterocarpus marsupium. *Rox.* The concrete exudation, Kino. See "Drugs" and "Gums and Gums Resins."

Many more of less value might be enumerated, but to attempt to be exhaustive in the class of Tans, would almost double the pages of this work, and I have therefore strictly confined myself to those which are generally known.

N. O 79. RHIZOPHORACEÆ. *MANGROVES.*

Bruguiera rheedei. *Blume.*

Linn. Syst. Polyandria Monogynia.

The bark.

Vernacular.

Habitat. The shores of the Concan.

Remarks. The bark of this species and of *Bruguiera gymnorhiza*, *Rhizophora Mangle*, and other Mangroves, constitutes the Mangrove bark of commerce. In Brazil the bark of *Conocarpus racemosa*, N. O. 81, is included under this term.

N. O. 81. COMBRETACEÆ. *MYROBALANS.*

Terminalia bellerica. *Rox.*

Linn. Syst. Polygamia Monœcia.

The fruit,—Belleric Myrobalan.

Vernacular. See "Drugs."

Habitat. India.

Terminalia chebula. *Rox.* *Oval-leaved Terminalia.*

Linn. Syst. Polygamia Monœcia.

The fruit,—Chebulic Myrobalans.

Vernacular. See "Drugs."

Habitat. Cabul, India.

Remarks. See "Drugs." These Myrobalans are met with of so many sizes and colours, as to appear of different species;—but the differences are owing solely to the age at which the fruit is gathered. The Belleric Myrobalan (*T. bellerica,* Rox.) is also highly astringent.

N. O. 85. MYRTACEÆ. *MYRTLE BLOOMS.*

Punica Granatum. *Linn.* *Pomegranate.*

Linn Syst. Icosandria Monogynia.

The buds, rind, and root bark.

Vernacular. See "Drugs."

Habitat. Northern Africa, Armenia, Mazanderan, Bokhara, Cabul, Cashmir. Cultivated widely in Asia.

Remarks. The barks of *Careya arborea,* and *Syzygium Jambolanum,* both Indian trees, are astringent. *Eucalyptus resinifera,* the source of Botany Bay Kino, and other species of *Eucalyptus* are also used as tans in Australia. Under N. O. 126, Styraceæ, the bark of *Symplocos laurina* is used in Bengal as a mordant for red dyes.

N. O. 133. EBENACEÆ. *EBENADS.*

Diospyros glutinosa. *Rox.*

Linn. Syst. Polygamia Monœcia.

The fruit.

Vernacular. See "Fruits and Vegetables."

Habitat. India.

N. O. 140. ASCLEPIADACEÆ. *ASCLEPIADS.*

Calotropis gigantea. *R. Brown.* *Curled-flowered Calotropis.*

Linn. Syst. Pentandria Digynia.

The milk sap.

Vernacular. See "Drugs."

Habitat. India.

N. O. 162. VERBENACEÆ. *VERBENES.*

Avicennia tomentosa. *Linn.* *Downy-leaved Avicennia.*

Linn. Syst. Didynamia Angiospermia.

The bark.

Vernacular. *Bina,* Beng. *Oepata,* Mal.

Habitat. Salt marshes of the tropics.

Remarks. First described by Van Rheede, and is Buchanan's *A. Oepata.* Other species of *Avicennia* are used also as tans.

The remaining Indian Tans are :—

N. O. 195. Euphorbiaceæ, **Phyllanthus Emblica,** W. The fruit, Emblic Myrobalan. See "Drugs."

N. O. 251. Palmæ, **Areca Catechu,** the extract of the nut, Catechu; and the gall, *Mochurrus.* See "Drugs."

The bark of *Casuarina equisetifolia,* Fost. N. O. 213, Casuarinaceæ, of Australia and the Pacific Islands, and which flourishes luxuriantly in Bombay, is a valuable tan. Various tans are supplied also by N. O. 112. Corylaceæ,—namely, Galls by *Quercus infectoria,* Oliv. of Asia Minor, Valonia, the cups, Camata, the half-grown acorns, and Camatina the half-grown ovules of *Quercus Ægilops,* Spreng. also a native of Asia, Minor; and Oak-bark by *Quercus Robur.* Linn. of Britain. Many tans are used as dyes.

DIVISION I.

Class 4. F.

FIBRES.

N. O. 30. MALVACEÆ. *MALLOW-WORTS.*

Gossypium indicum. *Lam. seu* **G. herbaceum**. *Linn. Common Cotton.*

Linn. Syst. Monadelphia Polyandria.

The hair of the seed,—Cotton.

Vernacular. *Kurpasa,* Sans. *Kapase, Tula,* Beng. *Kapas,* Hind. Dec. *Rooi,* Hind. *Pungie, Paratie, Van-paratie,* Tam. *Puttie,* Tel. *Kapu,* Ceylon. *Capas,* Malaya. *Cay-haung, Hoa-mien,* China. *Kobung,* Mongolia. *Poombeh,* Pers. *Kootn, Beersoon,* Arab. *Cotn,* Egypt. Βομβάκι, Greece. *Bomaga, Chloptscha-teja,* Russia. *Bomby,* Caucasus. *Cotone, Bombagia,* Italy. *Algodon,* Spain. *Algodno, Algodeiro,* Portugal. *Coton,* France. *Cotton,* England. *Ketoen, Boomwol,* Holland. *Kattun, Boumwolle,* Germany. *Bomold,* Denmark. *Bomull,* Sweden.

Habitat. India. Cultivated in China, Persia, Arabia, Syria, and the Mediterranean countries, and probably also in the interior of Africa, and in America.

Remarks. Cotton is mentioned in the earliest books known. There would appear to be four species, viz. :—

G. indicum, Lam. which yields Dacca, Berar, and China Cotton.

G. religiosum, Heyne, the source of *Deo Kapas,* or *Nurma-rooi.*

G. barbadense, Linn. the source of Sea Island, Uplands, New Orleans, Mexican, West Indian, Egyptian, and Bourbon Cotton.

G. peruvianum, Cav. the source of the Cotton of Peru, Pernambuco, Maranham, and Brazil.

Nankeen-coloured cotton, and fuzzy, and free seeds are produced indifferently by the above species. As regards the American species it is important to bear in mind that Cotton was found by Columbus in the West Indies, and by Cortez in Mexico, and that it has been immemorially used in America for clothing; both cotton wool and cotton fabrics having lately been discovered in the ancient tombs of Peru. Colonel Playfair has just (October 1st, 1864) sent me a peculiar cotton fibre from Eastern Africa, Nankeen coloured, and like fine sheep's wool to the touch. The seeds are of a dull yellow colour. It is not apparently a true cotton.

Hibiscus cannabinus. *Linn.* *Hemp-leaved Hibiscus.*

Linn. Syst. Monadelphia Polyandria.

The fibre of the bark,—Deckanee Hemp, or Ambaree.

Vernacular. *Garnikura*, Sans. *Mesta-paut, Nalkee, Pulooa*, Beng. Hind. *Sunnee*, Saharunpore. *Wilaitee-sun*, Muttra. *Ambaree*, Bombay. *Punday, Pundrica*, Can. *Gong-kura*, Tel. *Palungoo*, Madras. *Pooley-numajee*, Coimbatore.

Habitat. East Indies.

Remarks. First described by Piso and Marcgrave. The Silk cotton trees **Salmalia malabarica** and **Eriodendron anfractuosum** belong to N. O. 31. Sterculiaceæ. Their silk can be used only for stuffing pillows, beds, and cushions. The silk of **Cochlospermum Gossypium**, N. O. 19, can be similarly used, as also of **Calotropis gigantea**, N. O. 140, *infra*. A fibre is prepared in Malabar from the bark of **Sterculia guttata**, W. et A. the *Kookar* or *Goldar* of this Presidency. Under N. O. 32. Byttneriaceæ, the bark of *Domberga spectabilis*, is made into ropes in the Mauritius.

N. O. 33. TILIACEÆ. *LINDENBLOOMS.*

Corchorus capsularis. *Linn.* *Heart-leaved Corchorus.*

Corchorus olitorius. *Linn.* *Bristly-leaved Corchorus.*

Linn. Syst. Polyandria Monogynia.

The fibre of the bark,—Jute.

Vernacular. **C. olitorius**, *Putta*, Sans. *Pat, Koshta, Bhungee*, Beng. *Singginganascha*, Hind. **C. capsularis**,—*Ghinalita, Pat, Koshta*, Hind. The fibre,—*Jute*, Beng.

Habitat. *C. capsularis*, East Indies. *C. olitorius*, Intertropical Asia, Africa, and America.

Remarks. *C. olitorius*, is commonly known under the name of *Jew's Mallow*. It is mentioned in Job xxx. 4, and is the κόρχορος of the Greeks. *Gunny* is cloth made of *Jute*. *Tilia europæa*, Linn. is the *Lime* or *Linden* from the bark of which the Bass or Bast of Russia is prepared.

CSL

N. O. 55. LINACEÆ. *FLAXWORTS.*

Linum usitatissimum. *Linn. Common Flax.*

Linn. Syst. Pentandria Pentagynia.

The fibre of the stalks,—Flax.

Vernacular. See "Drugs."

Habitat. Egypt. Cultivated widely in Europe and India.

Remarks. Although long cultivated for its oil seed, it is but during the last few years that any attempt has been made to utilize its fibre in India, and that only on any scale in the Punjab. Linen is first mentioned in Exodus ix. 31. It is mentioned also by Herodotus, Pliny, and many other writers of antiquity.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Crotalaria juncea. *Linn. Striated-stalked Crotalaria.*

Linn. Syst. Diadelphia Decandria.

The fibre of the bark,—Sunn Hemp, Brown Hemp, Madras Hemp, Taag, Conkanee Hemp, Salsette or Bombay Hemp, Travancore Flax.

Vernacular. *Sana,* Sans. *Ghore-sun, Meesta-pat,* Beng. *Sunn,* Hind. *Taag* (*Ambaree*? Graham), By. *Shanamoo,* Tel. *Kenna,* Cey.

Habitat. East Indies.

Remarks. Probably referred to in the following passage of Manu (Book ii. page 44), "The sacrifical thread of a Brahmin must be of cotton, so as to be put on over his head in three strings; that of a Cshatriya of *Sana* thread only; that of a Vaisya of woollen thread." *Sana* here, however, may mean *Ambaree.* The plant is first described by Van Rheede, of Western authorities. It is the *Wuckoo-nar* of Travancore. Jubbulpore Hemp is obtained from *C. tenuifolia,* Rox. The *Dunchee* fibre of Bengal is from the *Æschynomene cannabina* of Roxburgh. The *Patwa,* or *Mawal* fibre sent to the Great Exhibition, from Bhagulpore, was prepared from the bark of *Bauhinia racemosa.*

N. O. 140. ASCLEPIADACEÆ. *ASCLEPIADS.*

Calotropis gigantea. *R. Brown. Curled-flowered Calotropis.*

Linn. Syst. Pentandria Digynia.

The fibre of the Bark,—Yercum.

Vernacular. See "Drugs."

Habitat. India.

Remarks. See "Drugs." This fibre is also now known in Europe under the names of *Ak* and *Mudar,* Hindoostani names of the plant. *Yercum* is one of its names amongst the Tamils. The silky fibre of the pods may also be used for the same purposes as the silk cottons mentioned above under N. Os. 31 and 19. *Leptadenia jacquemontiana,* the *Kip* of Sindh, yields fibre for cordage.

Dæmia extensa. *Don.*

Linn. Syst. Pentandria Digynia.

The fibre of the stem.

Vernacular. *Ootrum,* Nizam's Dominions.

Habitat. East Indies.

Remarks. The commonest weed in the Deccan. It was first brought to my notice by Captain Meadows Taylor, who gained a medal for fibre prepared from it at the Madras Exhibition of 1855. Messrs. Graham & Co. lately sent me a fibre very like this, which, they said, had been sent to them from England where it has been lately imported from India under the name of "India grass." If exported from Madras it probably is this Dæmia fibre: but if from Calcutta it is probably the fibre of an *Urtica,* like *China Grass,* below. *Marsdenia tenacessima,* W. et A. is the source of the Bowstring Hemp of Rajmahl, or *Jetee* fibre. The bark of *Cordia angustifolia,* Don, N. O. 153. Cordiaceæ, is made into ropes, near Severndroog (Buchanan, *teste* Royle). Nepaul paper is prepared from the fibres of *Daphne cannabina,* Loureiro. (Is this *D. Bholua* of some writers?) N. O. 185. Thymeliaceæ, the order of the *Lace-bark tree, Lagetta lintearia,* P. S. of Jamaica. In Madagascar ropes are made from *Gnidia daphnoides* and paper from *Dais madagascariensis.*

N. O. 199. URTICACEÆ. *NETTLEWORTS.*

Cannabis sativa. *W. Common Hemp.*

Linn. Syst. Diœcia Pentandria.

The fibre of the bark,—Hemp.

Vernacular. See "Drugs."

Habitat. Caucasus, Hindoo-Koosh, Himalayas; cultivated in Europe for its fibre, and in Africa and Asia for its narcotic properties.

Remarks. See "Drugs" and "Narcotics." Although widely cultivated in India on account of its narcotic properties, fibre is not prepared here from this plant. See "herb Pantagruelion,"—Rabelais. *Bœhmeria* *nivea*, Gaud. *seu Urtica tenacissima*, Rox. is the source of the China-Grass, or *Rheea* fibre of commerce. The Eastern synonymes of this plant are :—*Rheea*, Assam. *Kunkhoora*, Rungpore. *Pun*, Shaw. *Goun*, Burmah. *Ramee*, Malaya. *Caloee*, Sumatra. *Inan*, Bonoa. *Gambe*, Celebes. *Chú-má*, China. *Tsjo, Karao*, Japan. *Urtica crenulata*, Rox. *Chor-putta* or *Surat*, and *U. heterophylla*, Rox. *Horoo-surat* are also amongst the fibrous plants of Assam. The latter Royle states is also a native of the Concan, and it is also included in Dalzell's catalogue. The *Pooah* fibre of Nepaul is from *Bœhmeria frutescens*, and the *Mesakhee* fibre of the Murrees is also from a Nettlewort.

N. O. 200. ARTOCARPACEÆ. *ARTOCARPADS.*

Antiris saccidora. *Dalzell.*

Linn. Syst. Polygamia Diœcia.

Vernacular. *Chandul*, By. *Araya-angely*, Mal.

Habitat. The ravines of the Western Ghâts.

Remarks. "It is common in the jungles, near Coorg, where the people manufacture very curious sacks from the bark, and by a most simple process, which will be hardly credited in Europe. A branch is cut corresponding to the length and breadth of the sack wanted. It is soaked a little, and then beaten with clubs until the *liber* separates from the wood. This done, the sack formed of the bark is turned inside out, and pulled down until the wood is sawed off, with the exception of a small piece left to form the bottom of the sack, and which is carefully left untouched. These sacks are in general use amongst the villagers for carrying rice, and are sold for about six annas each." (Graham.) To this order belongs *Brussonetia papyrifera*, used in China and Japan for the manufacture of Crape paper. The Rice paper of China is prepared from the pith of *Aralia papyrifera*, N. O. 111. Hederaceæ; and that of the Eastern Archipelago from *Scævola Taccada*, N. O. 122. Goodeniaceæ. In Madagascar paper is prepared from *Dais Madagascariensis*, and in Nepaul from *Daphne Caunabina*, and if that is not identical with *D. Bholua*, from the latter also. The North Americans use the bark of *Betula papyrifera*, N. O. 211, for lining boats, making the soles of shoes, &c. Manilla Hemp, the *Abaca* of the natives of the Philippine Islands, is prepared from *Musa textilis*, L. Nee, N. O. 235. Musaceæ. The fibres of *Ananassa sativa*, N. O. 241. Bromeliaceæ are also used in the manufacture of cordage, and Pine-apple cloth, various species of *Bromelia* and *Tillandsia* contributing a portion to the so-called Pine-apple fibre of commerce. Spanish Moss, or *Barba Hispanica*, is the fibre of *Tillandsia usneoides*, not however prepared artificially from the leaves, but produced naturally, in the place of leaves and roots. N. O. 242, Liliaceæ, affords several fibres, viz. New Zealand Flax, from *Phormium tenax* : Bowstring Hemp, from *Sansevieria zeylanica*, the *Moorva* of Bengal, and *Marool* of Madras : and Agave, or

Pita from *Agave vivipera,* Buch. (*A. Cantala,* Rox. *Aloe americana,* Rumph.) the *Cantala* of Hindoostan, and *Petha* of Madras, for although a native of tropical America, like the *Parkinsonia americana,* Cashew, Prickley-pear, and *Argemone mexicana,* it has become naturalized in India, in many parts giving a type to the landscape.

N. O. 251. PALMÆ. *PALMS.*

Cocos nucifera. *W.* *Common Cocoanut.*

Linn. Syst. Monœcia Hexandria.

The fibre surrounding the nut,—Coir.

Vernacular. See "Fruits and Vegetables."

Habitat. East Indies.

Remarks. See "Fruits and Vegetables." *Ejoo* or *Gomuti* is the horsehair-like fibre found about the base of the leaves of *Arenga saccharifera,* Labill. The *Tucum* thread of the Brazilians of the Rio Nigro, and Upper Amazon, is prepared from the young leaves of *Astrocaryum vulgare,* Mart. not to be confounded with *A. Tucuma,* Mart. From the outer portion of the leave-stalks of *A. acaule,* Mart. the natives of the Rio Nigro weave baskets. *Piassaba,* or Para-grass, is the fibre found about the base of the leaves of *Attalea funifera,* Mart. (*Leopoldinia Piassaba,* Wallace), which also supplies Coquilla nuts, of which parasol and door handles are often made. The leaves of the *Gebang, Corypha Gebanga,* Blume, of Java, are made there into hats, clothing, nets, bags, and baskets, the industry giving employment to "thousands of boys and girls." The leaves of *Eugeissonia tristis,* Griffith, in Penang, as those of *Nipa fruticans,* Thunb. (sometimes placed under N. O. 255. Pandanaceæ) in the Eastern Archipelago, are woven into mats. In Carolina and Florida, hats are made of the leaves of the Palmetto, *Sabal Palmetto,* Lodd. Canes are the stems of species of *Calamus. C. Draco,* W. is believed to yield the white and brown Manilla Dragons' Canes of commerce : *C. scipionum,* Lour. the so-called "Malacca Canes" of Sumatra, and *C. Rotang,* Linn. and other species the common rattans of commerce. "Penang Lawyers" are the young stems of *Licuala acutifida,* Mart. of the Eastern Archipelago. The vulgar designation is not complimentary to the sticks. During the early days of the war of disruption in the United States of America, *Zostera marina,* No. 260. Zosteraceæ, was for a time madly thought of as a substitute for Cotton. There is no substitute for Cotton.

N. O. 266. GRAMINEÆ. *GRASSES.*

Saccharum spontaneum. *Linn.*

Linn. Syst. Triandria Digynia.

The culm.

CSL

Vernacular. *Kasha,* Sans. *Kashiya,* Beng. *Kagara,* Hind. *Kahn,* Sindh. *Relloogaddy,* Tel.

Habitat. India.

Remarks. Sir W. Jones writes (Asiat. Res. IV. p. 248) : "This beautiful and superb grass is highly celebrated in the Puranas, the Indian God of war having been born in a grove of it which burst into a flame." He attaches to it the Sanscrit synonyme of *Sara,* and observes : "The *Cásá,* vulgarly *Casia,* has a shorter culm, leaves much narrower, longer, and thicker hairs, but a smaller panicle, less compounded, without the purplish tints of the Sara. It is often described, with praise by the Hindoo poets for the whiteness of its blossoms, which give a large plain at some distance the appearance of a broad river. Both plants are extremely useful to the *Indians,* who harden the internodal parts of the culms, and cut them into implements for writing on their polished paper. From the *munja* or culm of the *Sara* was made the *maunji,* a holy thread, ordained by MENU to form the sacerdotal girdle, in preference even to the *Cusa*-grass."

In these passages Sir W. Jones apparently refers to three distinct species. His *Cásá* is evidently *S. spontaneum,* Linn. to which he has, it would seem wrongly applied the synonyme of *Sara,* the *S. Sara* of Roxburgh, or *Pen-reed Grass* of Anglo-Indians. *S. Munja,* Rox. is the true *Munja.* For *Cusa,* see "Miscellaneous Class."

The *Sur* of Sindh, Royle conjectures may be *Arundo Karka,* Linn. of which the *Durma* mats of Bengal are made. Various Rushes, N. O. 250, are used in different parts of the world for chair-bottoms, baskets, mats, and Japan mats are said to be made of *Juncus effusus,* a native also of Europe. Of Bulrushes, N. O. 256 the leaves of *Typha elephantina,* Rox. the *Pun* and *Booree* of Sindh, are used in that country for mats and baskets. Of Sedges, N. O. 265, *Eriophorum cannabinum,* the *Bhabur,*or *Bhaburee* of Hindoostan, is used every where along the Himalayas for making ropes, and the elegant shining mats for which Calcutta is celebrated are made of *Papyrus Pangorei,* Nees ab Esen. *Papyrus antiquorum* of the Nile (translated Bulrush, and Rush, in the Bible), is the Sedge from the pith of which the ancients made paper. What are China and Zanzibar mats, and the *lambas* of Madagascar, made of? Thatch, broom, and fence plants have been omitted, as also all plants any part of which may be used for clothing, without preparation, as the leaf of *Licuala peltata,* Rox. the *Chattah-pat* of the Assamese and of *Livistonia jenkinsiana,* Griff. also a Palm, the *Toko-pat* of the same people, both being used by them as hats, as to do so would immoderately extend this work.

MINISTRY OF CULTURE · GOVERNMENT OF INDIA
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DIVISION I.

Class 4. H.

WOODS.

N. O. 4. ANNONACEÆ. *ANONADS.*

Guatteria cerasoides. *Dunal.*

Linn. Syst. Polyandria Polygynia.

HOOM.

Vernacular. *Hoom*, By. *Chettaduduga*, Tel.

Habitat. The Ghât and Coast forests of Western India.

Remarks. The wood is used in general carpentry, and for boat spars.

Sageræa laurina. *Dalz.*

Linn. Syst. Polyandria Polygynia.

SAJEREE.

Vernacular. *Sajeree, Undie*, By.

Habitat. The Concans.

Remarks. "Yields a valuable reddish timber." (Dalzell.) The LANCE WOOD of Cuba and Guiana is produced by *Duguetia quitarensis*, Benth. In the West Indies *Xylopia glabra* affords a very bitter wood, and articles packed in boxes of it are never attacked by insects. Under N. O. 3. Magnoliaceæ, *Aromadendron elegans* affords a valuable wood in Java: and the white, solid wood of *Manglietia glauca* is used there for coffins. *Magnolia excelsa* furnishes the timber called CHAMP. In Nepaul the wood of *Michelia Doltsopa* is much used for building.

N. O. 30. MALVACEÆ. *MALLOW-WORTS.*

Thespesia populnea. *W. et A.* *Poplar-leaved Hibiscus.*

Linn. Syst. Monadelphia Polyandria.

BENDY.

Vernacular. *Sooparshavaka,* Sans. *Porush,* Beng. Hind. *Paris, Parispipal,* Hind. *Bendy,* By. *Poursanghai,* Tam. *Gangari,* Tel. *Sooriya-gaha,* Cey.

Habitat. Eastern Archipelago.

Remarks. First described by Van Rheede, but evidently introduced by the Portuguese from the Eastern Archipelago. It is found in the coast forests, the wood being used for wheels, and boat timbers, and the shoots as rafters.

N. O. 31. STERCULIACEÆ. *STERCULIADS.*

Salmalia malabarica. *S. et E.* *Red Silk-Cotton Tree.*

Linn. Syst. Monadelphia Polyandria.

SAUR.

Vernacular. *Salmali,* Sans. *Ruckta-sembul,* Hind. *Saur,* Dec. *Moul-elavoo,* Mal. *Elavum-marum, Pula-marum,* Tam. *Buraga,* Tel. *Mahatelambu,* Cey.

Habitat. The Concans, Malabar, Courtallum.

Remarks. First mentioned by Van Rheede. Found both inland and on our coast, the wood being used for light packing-boxes and fishing-floats.

Sterculia fœtida. *W.*

Linn. Syst. Monadelphia Dodecandria.

BASTARD POON.

Vernacular. *Jungli-badam,* Vulg. *Kudra-plukku, Pinari-marum,* Tam. *Gurrapu-bădam-chettu,* Tel.

Habitat. Central and Southern India.

Remarks. First described by Plukenet. Dalzell does not mention it in his Catalogue of Indigenous Plants, but Dr. Gibson mentions that it is found about cultivated holdings on the coast within this Government. South of Sawunt Warree it is very plentiful. It is used for boat spars in lieu of POON—N. O. 42, *infra.* Under N. O. 32. Byttneriaceæ, *Pterospermum indicum* is the tree which yields AMBOYNA, or KYABUCA-WOOD. Under N. O. 33. Tiliaceæ, *Berrya Ammonilla,* produces the TRINCOMALLEE-WOOD, of which the Massula boats of Madras are made; and *Grewia elastica* yields a hard elastic wood called DHAMNOO, used for carriage shafts, bows, &c. SAUL is produced by *Shorea robusta,* of India, N. O. 34. Dipterocarpaceæ.

CSL

N. O. 40. AURANTIACEÆ. *CITRONWORTS.*

Feronia elephantum. *C. de S. Indian Elephant Apple.*

Linn. Syst. Decandria Monogynia.

KAWTHA.

Vernacular. See "Drugs."

Habitat. India.

Remarks. Common in Guzerat and the Deccan. Used in building. ORANGE-WOOD is produced by *Citrus Aurantium.* The Citrus-wood of the ancients was produced by *Callitris quadrivalvis,* Vent. *Jointed Arbor-Vitæ,* a Conifer.

N. O. 42. GUTTIFERÆ. *GUTTIFERS.*

Calophyllum angustifolium. *Rox.*

Linn. Syst. Polyandria Monogynia.

POON.

Vernacular. *Poon,* Malabar.

Habitat. Prince of Wales's Island, Malabar, Mysore.

Remarks. Dalzell states it is to be found at Neel-goond and Woolwee Ghâts, S. W. from Dharwar, but the tree is everywhere becoming scarce, and calls for strict conservation. The wood of *Byrsonima verbascifolia,* N. O. 45. Malpighiaceæ is bright red, as likewise is the wood of some of the Erythroxylaceæ, N. O. 46. BIRD'S-EYE MAPLE and CURLY MAPLE are varieties of *Acer saccharinum,* N. O. 47. Aceraceæ.

N.O. 48. SAPINDACEÆ. *SOAPWORTS.*

Sleichera trijuga. *W.*

Linn. Syst. Octandria Monogynia.

KOOSUM.

Vernacular. *Koosum,* By.

Habitat. Coromandel, Malabar.

Remarks. Common in the North Concan, the wood being used for making screw-rollers for mills and presses.

N. O. 50. MELIACEÆ. *MELIADS.*

Azadirachta indica. *A de Juss. Ash-leaved Bead-Tree.*

Linn. Syst. Monadelphia Decandria.

NEEM.

Vernacular. See "Drugs."

Habitat. India.

Remarks. First described by Breynius. The tree is common everywhere, and is used in building. BUKAYAN used for rafters, is *M. sempirvirens*, W. Dr. Gibson mentions *M. superba* with the synonyme NIMBARA, as producing a good wood in this Government. I find no other reference to it.

N. O. 52. CEDRELACEÆ. *CEDRELADS.*

Cedrela Toona. *Rox. Indian Bastard Cedar.*

Linn. Syst. Pentandria Monogynia.

TOON. KOORUK.

Vernacular. *Tuna, Cuveraca,* Sans. *Toon, Lood,* Beng. Hind. Tam. *Kooruk, Limbara,* By. *Tunda,* Can.

Habitat. Bengal, and the North Eastern provinces.

Remarks. Found about Rajpooree creek, and used as a Cabinet-wood. *Limbara* is also a native name of *Heynea trijuga,* Rox. called *Teesul* in this Government. *Cedrela odorata,* produces the CEDAR of Jamaica and Honduras. The RED CEDAR of Virginia, and the American PENCIL CEDAR, are the products of Conifers, as is also the CEDAR of Lebanon. See N. O. 220.

Chickrassia tabularis. *W. et A.*

Linn. Syst. Decandria Monogynia.

CHICKRASSI. PUBHA.

Vernacular. *Chickrassi,* Beng. *Pubha,* By. *Agle-marum,* Tam.

Habitat. Chittagong.

Remarks. Stated as indigenous by Dr. Gibson, but not by Dalzell. It affords a valuable cabinet-wood.

Chloroxylon Swietenia. *De C.*

Linn. Syst. Decandria Monogynia.

SATIN-WOOD. BILLOO.

Vernacular. *Hulda, Billoo,* By. *Kodawa,-pursh, Moondudad, Vummaray,* Tam. *Billoo,* Tel. *Boorooch-gaha,* Cey.

Habitat. India.

Remarks. Found in this Government in the Padshapoor jungles and those of the upper Mool. It produces a beautiful cabinet-wood. The light, canary SATIN-WOOD of America is said to be produced by *Maba guianensis:* N. O. 133. Ebenaceæ. MAHOGANY is the wood of *Swietenia Mahagoni* of Honduras, and the West India islands.

CSL

Soymida febrifuga. *Juss. Febrifuge Soymida.*

Linn. Syst. Monadelphia Decandria.

ROHUN.

Vernacular. *Rohuna, Patranga,* Sans. *Rohun,* Hind. *Ruoen, Ruhin,* Dec. *Swamy,* Can. *Woondmarum, Shemmarum, Choarkallli-marum,* Tam. *Somida, Sumi,* Tel.

Habitat. The mountains of India.

Remarks. Found in this Presidency only on the Satpooras. It yields a valuable cabinet-wood, sometimes called RED-WOOD, or BASTARD CEDAR. See *Cedrela Toona. Oxleya xanthoxyla* yields the YELLOW-WOOD of New South Wales. LIGNUM VITÆ is produced by *Guaiacum officinale* of Jamaica, N. O. 62. Zygophyllaceæ.

N. O. 66. SIMARUBACEÆ. *QUASSIADS.*

Ailanthus excelsa. *Indian Ailanthus.*

Linn. Syst. Polygamia Monœcia.

MAROOK.

Vernacular. *Aralu,* Sans. *Marook,* By. *Peru-maram,* Tam. *Peddumanu,* Tel.

Habitat. India.

Remarks. Found in the ravines of the Deccan and Guzerat, and but little used except for sword handles.

N. O. 68. CELASTRACEÆ. *SPINDLE-TREES.*

Celastrus montanus. *Rox.*

Linn. Syst. Pentandria Monogynia.

MALKUNGANEE.

Vernacular. *Malkunganee,* Hind. Dec. *Valuluvy, Pedda-chintoo,* Tam. *Bavungie,* Tel.

Habitat. India.

Remarks. Found on the barren hills of the Deccan, and in Sind; and valuable for tile-dunnage.

Euonymus garcinifolia. *Rox.*

Linn. Syst. Pentandria Monogynia.

Vernacular. *Mori,* Sylhet. *Nooe,* Nepal.

Habitat. Sylhet.

Remarks. Dr. Gibson says it is used in North Canara for rafters, but Cleghorn does not confirm this.

N. O. 70. RHAMNACEÆ. *RHAMNADS.*

Zizyphus Jujuba. *Lam.* *Blunt-leaved Zizyphus.*

Linn. Syst. Pentandria Monogynia.

BOR. BHER.

Vernacular. See. "Fruits and Vegetables."

Habitat. North Africa, Arabia, and India.

Remarks. Found by river banks. The wood is used chiefly for sandals, and saddle-trees, but would do for sleepers.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Acacia arabica. *W.* *Gum Arabic Tree.*

Linn. Syst. Polygamia Monœcia.

BABOOL.

Vernacular. See "Drugs."

Habitat. India, Arabia, Egypt, Senegal.

Remarks. See "Drugs." Very common inland, and chiefly used for wheels and charcoal. The *Shittim* wood of the Bible is referred to this tree.

Acacia Catechu. *W.* *Medicinal Acacia.*

Linn. Syst. Polygamia Monœcia.

KHAIR.

Vernacular. See "Drugs."

Habitat. The East and West Indies.

Remarks. See "Drugs." The commonest tree on the sea face of the Western Ghâts. The wood is used for uprights for houses.

Acacia Lebbek. *W.* *Egyptian Acacia.*

Acacia odoratissima. *W.* *Fragrant Acacia.*

Linn. Syst. Polygamia Monœcia.

SIRRUS.

CSL

Vernacular. **A. Lebbek,** *Siris,* Sans. Beng. Hind. *Sirus,* Dec. *Vel-venge,* Tam. *Dirasana,* Tel. **A. odoratissima,** *Ran-sirrus,* Dec. *Sælæ-marum, Karu-venge,* Tam. *Shinduga,* Tel.

Habitat. A. Lebbek,—Egypt, India. *A. odoratissima,*—East Indies.

Remarks. The first plant is Roxburgh's *Mimosa Sirissa,* and the second his *M. odoratissima. A. speciosa* is also a synonyme of the first. Both are fine trees, with a hard, light wood, of general service. *A. formosa* produces the SABICU wood of Cuba, used for the stairs of the Great Exhibition of 1851.

Butea frondosa. *Rox. Downy-branch Butea.*

Linn. Syst. Diadelphia Decandria.

PALAS.

Vernacular. See "Drugs" and "Dyes."

Habitat. India.

Remarks. Used in house-building in Guzerat.

Dalbergia latifolia. *Rox. Broad-leaved Dalbergia.*

Linn. Syst. Diadelphia Decandria.

BLACKWOOD, SEESOO. EAST INDIAN EBONY.

Vernacular. *Sit-sal.* Beng. *Seesoo,* By. *Biti,* Can. *Erupothi,* Tam. *Irugudu-chettu,* Tel.

Habitat. India.

Remarks. Found in our coast forests, and one of the largest mountain trees in India. BLACKWOOD is also produced by *D. sissoides,* not found in this Government. The *Sissoo* of Bengal is *D. Sissoo,* and the wood is used there for gun-carriages. Our BLACKWOOD is a first class cabinet-wood, the well-known Blackwood furniture of Bombay, being made of it.

Dalbergia oogeinensis. *Rox.*

Linn. Syst. Diadelphia Decandria.

TUNNUS. TEWUS.

Vernacular. *Tinisha, Sejanduna,* Sans. *Tunnus, Tewus,* By.

Habitat. India.

Remarks. Found both in our coast and inland forests: the wood is used in building, and for carts and ploughs. "The pillars of Madajee Scindia's palace at Oojein are made of it." (Rox.)

Dalbergia paniculata. *Rox. Panicled Dalbergia.*

Linn. Syst. Diadelphia Decandria.

PHASEE.

Vernacular. *Phasee,* By. *Hasur-gunni,* Can. *Palsuroo,* Tel.

Habitat. India.

Remarks. Found both in the coast and inland forests, and used as TUNNUS is.

Erythrina indica. *Lam. Indian Coral Tree.*

Linn. Syst. Diadelphia Decandria.

PANGREE.

Vernacular. *Mundara,* Sans. *Palta mandar,* Beng., Hind. *Furrud,* Hind. *Pangree,* By. *Mooloo-moorikah,* Mal. *Murukamarum,* Tam. *Badidil-chettu,* Tel.

Habitat. East Indies.

Remarks. Yields the MUCHIE-WOOD of Madras. Toys and sword scabbards are made of it, and it is admirably adapted for the latter. The seeds of an Abyssinian species of this genus are called *Carat* in that country, where they have been immemorially used for weighing gold, whence the modern term carat, according to Bruce. The *Coral-plant* of Anglo-Indians is *Jatropha multifida,* N. O. 195.

Hardwickia binata. *Rox.*

Linn. Syst. Decandria Monogynia.

ANJUN.

Vernacular. *Anjun,* By. *Caratchu,* Can. *Acha, Atti,* Tam. *Yepi,* Nellore, Masulipatam, Guntur.

Habitat. Coromandel.

Remarks. Found in the Padshapoor jungles. *Acha* is a Tamil name also for *Diospyros ebenaster,* N. O. 133. *Anjun* is a name of *Memecylon tinctorium,* N. O. 82, *infra.*

Pterocarpus marsupium. *Rox. Emarginate-leaved,* or *Indian Kino-tree.*

Linn. Syst. Diadelphia Decandria.

BEEBLA. HOONEE.

Vernacular. See "Drugs" and "Gums and Resins."

Habitat. Assam? Malabar, Concans.

Remarks. Found in our inland forests chiefly, and much used for building.

CSL

Tamarindus indica. *Linn.* *Common Tamarind.*

Linn. Syst. Monadelphia Triandria.

AMBLEE.

Vernacular. See "Drugs."

Habitat. India.

Remarks. Found about old temples; the heart wood is very strong and adapted for a variety of purposes. The LOCUST-WOOD of North America is produced by *Robinia pseud'-Acacia,* the ROSE-WOOD of Brazil from several undetermined species of *Triptolomæa,* a genus which probably also furnishes the VIOLET-WOOD and KING-WOOD of that country. *Mora excelsa* furnishes the MORA-WOOD, and *Copaiba pubiflora,* the PURPLE-HEART of Guiana.

N. O. 78. LYTHRACEÆ. *LOOSESTRIFES.*

Lagerstrœmia parviflora. *Rox.*

Linn. Syst. Polyandria Monogynia.

BENTEAK. NANAH. BONDARA.

Vernacular. *Nanah,* By. *Ventaku,* Can. *Cutcha-catta-marum,* Tam. *Chinangee,* Tel.

Habitat. The Western Ghâts and the Circars.

Remarks. Common in our forests, but more so South of Savitree. The wood is much used in the Dockyard. Dr. Gibson gives *Bondara,* as a native synonyme of South Concan.

Lagerstrœmia Flos-reginæ. *Retz.* *Oblong-leaved Lagerstrœmia.*

Linn. Syst. Polyandria Monogynia.

TAMAN, MOTABONDARA.

Vernacular. *Arjuna,* Sans. *Jarool,* Beng. Hind. *Taman,* By. *Mota-bondara,* S. Concan?

Habitat. The Circars, Malabar, and the Concans.

Remarks. First described by Van-Rheede. Found chiefly South of the Savitree; and the wood is chiefly used for boat knees. *Arjuna* and *Arjoon* are names of species of *Terminalia,* N. O. 81, *infra.*

N. O. 79. RHIZOPHORACEÆ. *MANGROVES.*

Carallia integerrima. *De C.*

Linn. Syst. Icosandria Monogynia.

PHUNSEE.

Vernacular. *Phunsee,* By.

CSL

Habitat. Silhet, Chittagong, the Circars, and Western Ghâts.

Remarks. Found in the South Concan, and used in turnery.

N. O. 81. COMBRETACEÆ. *MYROBALANS.*

Terminalia Arjuna.

Linn. Syst. Polygamia Monœcia.

ARJUN-SADURA.

Vernacular. *Arjûna, Kukhooba,* Sans. *Urjoon,* Beng. *Cahua* Hind. *Arjun-sadara,* By.

Habitat. Bengal and the Deccan.

Remarks. Found of great size in the Belgaum and Soonda forests.

Terminalia glabra. *W. et A.*

Linn. Syst. Decandria Monogynia.

AEEN.

Vernacular. *Aeen, Maitree,* By.

Habitat. India.

Remarks. Abundant in all the coast jungles, and also above the Ghâts; and the wood is very valuable for building and other purposes. There is much confusion regarding the botanical synonymes of this tree, which I have not been able to unravel; and consequently the native names, except the local, are omitted.

Terminalia paniculata. *W. et A.*

Linn. Syst. Decandria Monogynia.

KEENJUL.

Vernacular. *Keenjul,* By. *Pekarakai,* Tam. *Neemeeri,* Tel.

Habitat. The Western Ghâts.

Remarks. Found only in the valleys of the South Concan rivers in this Presidency. The wood resembles AEEN.

N. O. 82. MELASTOMACEÆ *MELASTOMADS.*

Memecylon tinctorium. *Kœnig.*

Linn. Syst. Octandria Monogynia.

KURPA. ANJUN.

Vernacular. *Kurpa, Anjun,* By. *Kanyavuh,* Mal. *Casaucheddy, Kayampoovoocheddi,* Tam. *Alli-cheddu,* Tel. *Dœdi-kaha,* Cey.

Habitat. The Eastern and Western Ghâts.

Remarks. Common on the Ghâts, and used for agricultural purposes. *Anjun* is a native name of *Hardwickia binata.* N. O. 74, *supra;* and *Kurpa* of *Cupania canescens,* N. O. 48; and *Barringtonia acutangula,* N. O. 88.

N. O. 85. MYRTACEÆ. *MYRTLE BLOOMS.*

Syzygium Jambolanum. *W. et A.*

Linn. Syst. Icosandria Monogynia.

JAMBOOL.

Vernacular. See "Fruits and Vegetables."

Habitat. India.

Remarks. Found in the Ghâts and Concan forests. Being a fruit tree it should not perhaps be catalogued here; but its wood, like that of the *Jaca (Phunus,* Dec.), is so much used on account of its excellence, that as in the case of the latter, exception must be made to the rule which would exclude it. The wood of *S. salicifolium,* Wall. *Pan-jambool* is also used, according to Dalzell, for rafters in this Presidency; but Dr. Gibson does not mention it. Dr. Gibson states that the wood of *S. caryophylæum,* Gært. *Rat-jambool,* is equal to JAMBOOL, but it is only found south of the Savitree. *Metrosideros vera,* produces the IRON-WOOD of China; and *Eucalyptus resinifera,* the RED GUM-WOOD; and *E. piperita,* the BLUE GUM-WOOD of Australia.

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Morinda citrifolia. *Linn.* *Broad-leaved Morinda.*

Linn. Syst. Pentandria Monogynia.

AL. BARTONDIE.

Vernacular. See "Dyes."

Habitat. India.

Remarks. Found about villages in the Deccan, and used for door shutters, &c. Cultivated in Kandeish.

Nauclea cordifolia. *W.*

Linn. Syst. Pentandria Monogynia.

HEDOO.

Vernacular. *Keli-kudum,* Beng. *Hedoo,* By. *Hedde,* Can. *Manjacadamba,* Tam. *Daduga,* Tel.

Habitat. India.

Remarks. Found in the coast forests. The wood is very inferior, and used for packing-boxes for opium.

Nauclea parviflora. *W.*

Linn. Syst. Pentandria Monogynia.

KUDDUM.

Vernacular. *Kuddum*, By. *Botæ-Kudumee*, Tel.

Habitat. India.

Remarks. Found in the coast forests and used for gun-stalks. The *Kuddum* of Bengal is *N. Cadumba*, Rox. *Guettarda speciosa* produces the ZEBRA-WOOD of the West Indies.

N. O. 133. EBENACEÆ. *EBENADS.*

Diospyros melanoxylon. *Rox.*

Linn. Syst. Polygamia Diœcia.

EBONY. ABNOOS.

Vernacular. *Kakindoo*, Sans. *Kiew, Kendoo*, Beng. *Tindoo*, Hind. *Abnoos*, By. *Tambali*, Tam. *Tumida*, Tel.

Habitat. India, Ceylon.

Remarks. Found in this Presidency, only in North Canara. It is one of the trees which produce EBONY. This plant is figured Rox. Cor. fig. 46. The wood is black, and variegated. The other species producing EBONY are *D. Ebenum*, Retz. (Hebenaster, Rumph. Amb. 3 fig. 6 ?) of Ceylon, and the Moluccas, the wood of which is perfectly black : *D. Ebenaster*, Retz. said to be found about Calcutta, and probably the same species as *D. Ebenum* ; *D. tomentosa*, Poir. (*non* Rox.) ; and probably others. The tree which produces African Ebony is unknown. Ebony is mentioned by Ezekiel, with ivory as the merchandize of the men of Dedan ; and was familiar to the Greeks and Romans. *D. hirsuta*, Linn. of Ceylon, perhaps identical with Wallich's *D. dubia*, produces CALAMANDER, or COROMANDEL-WOOD. *Maba guianensis* produces the SATIN-WOOD of America. It is allied, according to Dalzell, to our *M. nigrescens*, Dalz. *Rugtroora*.

N. O. 135. SAPOTACEÆ. *SAPOTADS.*

Bassia latifolia. *Rox.* *Broad-leaved Bassia.*

Bassia longifolia. *W.* *Long-leaved Bassia.*

Linn. Syst. Dodecandria Monogynia.

MHOWA.

Vernacular. See "Fruits and Vegetables" and "Oils and Oil Seeds."

Habitat. *B. latifolia*, India. *B. longifolia*, the Deccan.

CSL

Remarks. *B. latifolia* is found in the Concans, but much more plentifully in Guzerat and Rajwarra. *B. longifolia* is found only in Dharwar and North Canara, and probably is incorrectly coupled by Dr. Gibson as a source of MHOWA-WOOD. *Achras Sapota* produces the BULLY-WOOD, or BLACK BULLY of America.

N. O. 138. OLEACEÆ.

Olea dioica. *Rox.*

Linn. Syst. Diandria Monogynia.

Vernacular. *Parr-jamb, Karamba,* By.

Habitat. India.

Remarks. Abundant on Matheran, Mahableshwur, Khandalla. "The timber is excellent." (Dalzell.) The PARTRIDGE-WOOD of the West Indies is said to be produced by *Hiesteria coccinea,* but it is probably the wood of a leguminous tree.

N. O. 144. BIGNONIACEÆ. *BIGNONIADS.*

Heterophragma chelonoides. *De C. Tree Trumpet Flower.*

Linn. Syst. Didynamia Angiospermia.

PADRI.

Vernacular. *Padri, Padel,* By. Mal. *Ponpadyræ,* Tam. *Tagada, Kalighootroo,* Tel. *Ela-palol,* Cey.

Habitat. Coromandel, Malabar.

Remarks. Common on the Ghâts; and the wood is high coloured, hard, and durable, and useful for general purposes.

Heterophragma roxburghii. *De C.*

Linn. Syst. Didynamia Angiospermia.

WURUS.

Vernacular. *Wurus,* By.

Habitat. Circars and the Western Ghâts.

Remarks. Very common on the Ghâts, and the wood is used for planks, and beams. It is Roxburgh's *Bignonia quadrilocularis.* There is only one tree of this growing in the Island of Bombay which I, after much intercession, spared from Mr. Forjett's axe when he was widening the road to Malabar Point. He had already cut down two which formed a group with the remaining one just below Castle Dangerous. *Wurrus* is a name given to *Kamela,* the powder which adheres to the capsules of *Rottlera tinctoria* See N. O. 195—"Drugs."

Heterophragma suaveolens. *De C.*

Linn. Syst. Didynamia Angiospermia.

PURUL.

Vernacular. *Patuli,* Sans. *Parul,* Beng. By. *Ghunta, Moog,* Beng. *Purula,* Hind.

Habitat. Bengal, Southern parts of Coromandel, and parts of Western India.

Remarks. Common in the Dandelly jungles. "One tree grows on the Island of Caranjah." (Dalzell.) The wood is strong and serviceable.

Spathodea rheedii. *Spreng.*

Linn. Syst. Didynamia Angiospermia.

MERSINGEE.

Vernacular. *Mersingee,* By. *Nir-pongelion,* Mal. *Woodi,* Tel.

Habitat. Coromandel chiefly.

Remarks. Found in the inland forests. The wood is used in turnery.

Tecoma undulata. *Don.*

Linn. Syst. Didynamia Angiospermia.

RUGTRORA.

Vernacular. *Rugtrora,* By. *Khew,* Sindh.

Habitat. Hindoostan, Guzerat, and Kandeish.

Remarks. Very rare. The wood is strong and durable, but its use is limited from its small size. *Rugtrora* is a native name also of *Rhamnus wightii,* N. O. 70; *Soymida, febrifuga,* N. O. 52; *Maba nigrescens,* N. O. 133, and *Polygonum glabrum,* N. O. 176. *Calosanthes indica,* Blume, the *Tetoo* of Bombay, although enumerated by Dr. Gibson is worthless as regards its wood. *Bignonia xylocarpa,* Rox. our *Khursing,* the *Bairsingee* of Kandeish (Graham), is also more useful on account of the oil yielded by its wood, than for its timber.

N. O. 162. VERBENACEÆ. *VERBENES.*

Gmelina arborea. *Rox.*

Linn. Syst. Didynamia Gymnospermia.

SHEWUN.

Vernacular. *Gumbharee,* Sans. *Gumhar,* Beng. Hind. *Shewun,* By. *Cummy-marum,* Tam. *Gumudu-chettu,* Tel. *Æt-damata,* Cey.

Habitat. The mountains of India.

Remarks. Found in the forests below the Ghâts. The wood is used for carriage pannels. It would repay greater attention than it receives.

Tectona grandis. *Linn. Great Teak.*

Linn. Syst. Pentandria Monogynia.

TEAK. SAGWAN.

Vernacular. *Segoon,* Beng. Hind. *Sagwan,* By. *Jaadi,* Can. *Tekka,* Mal. Cey. *Thaikoo,* Tam. *Teka,* Tel. *Jati,* Malaya.

Habitat. The East Indies.

Remarks. Found in Western India in a chain of forests along the Ghâts from Kandeish to Travancore. The Dandelly forest south of Dharwar is the largest. TEAK is the most useful of all the woods of Southern Asia.

Vitex altissima. *Linn. Tall Chaste Tree.*

Linn. Syst. Didynamia Angiospermia.

———— ?

Vernacular.

Habitat Coromandel, Canara, South Concan.

Remarks Found along the rivers of the Southern Concan. It produces a good cabinet-wood, but little used. The CAMPHOR-WOOD of China is produced by *Laurus camphora* and the GREENHEART of Demerara, by *Nectandra rodiæi,* N. O. 178. The latter is the *Bibiru* tree. At the Cape of Good Hope waggon wheels are made of the wood of *Protea grandiflora,* N. O. 182.

N. O. 190. SANTALACEÆ. *SANDALWORTS.*

Santalum album. *Linn. True Sandalwood.*

Linn. Syst. Tetrandria Monogynia.

SANDALWOOD. SUNDEL.

Vernacular. *Chandana, Gandhasara, Malayaja, Bhadrasri,* Sans *Chunduna,* Beng. Hind. Malaya. *Ghundasaru,* Sans. *Chundoie,* Hind. *Sundel,* Dec. *Tsjandana-marum,* Mal *Gandaga,* Can *Sandanum,* Tam. Tel. *Rat-hihiri,* Cey. *Sundul-abiyaz,* Arab. *Sundul-safeid,* Pers.

Habitat. The mountains of the Indian Peninsula, and the Eastern Archipelago.

CSL

Remarks. Philologists by an infinity of transpositions make this the *Algummim*, or *Almuggim* wood, brought by Hiram's navy from Ophir. Thus Max Müller, in his popular account of the identification of Malabar with the Aphir of the ancients, observes that the names for *apes*, *peacocks*, *ivory*, and *algum-trees*, are foreign words in Hebrew, as *tobacco* and *gutta percha* are in English; and that *algum* is clearly the Sanscrit *valguka*, one of the numerous names of Sandalwood in Malabar, where only it is found indigenous. This may be true. But Sandalwood is indigenous to the Eastern Archipelago, and that from Malaya is held in the best esteem throughout India. I have recently seen it argued that Malabar must be Ophir, because, in addition to Lassen's proof, M. Le Sœuf *would* find gold there; but the largest of *les œufs d'or* of the Gold Company's protracted gestation sent me is unmitigated pyrites, and another mica. It is undoubtedly one *Sundul* of Avicenna. The variety *S. album*, *β myrtifolium*, De C. is found in the Circars, and its wood is less precious. The Sandalwood forests of Western India extend uninterruptedly from a little to the South of the Teak forest of Dandelly and Sunda to the Northern slopes at the Nilgheris, lying the whole way above the Ghâts. *S. freycinetianum*, Gaud. yields the SANDALWOOD of the Sandwich isles; and *S. Yasi*, Seeman, the *Yasi* or Sandalwood of the Fiji Islands.

N. O. 195. EUPHORBIACEÆ.

Briedelia spinosa. *W.* *Prickley Briedelia.*

Linn. Syst. Polygamia Monœcia.

ASUNA.

Vernacular. See "Drugs."

Habitat. Assam, Circars, Travancore, the Concans.

Remarks. Common on the Ghâts; is used for well frames.

Euphorbia Tirucalli. *Linn.* *Indian Tree-spurge.*

Linn. Syst. Decandria Trigynia.

SEYR. TEJ.

Vernacular. *Lunka-sij*, Beng. *Seyr, Tej*, By. (Gibson.) *Tirucalli*, Mal. Tam.

Habitat. India.

Remarks. The *Milk bush* of Anglo-Indians. When found of sufficient size the wood is used for tile and terrace dunnage.

Putranjiva roxburghii. *Wall.*

Linn. Syst. Diœcia Pentandria.

JEEWUNPOOTR.

Vernacular. *Jeewunpootr*, By. *Pungalam*, Mal. *Kerdrajuree*, Tel.

Habitat. India.

Remarks. The *Wild Olive* of Anglo-Indians. It is found on the coast, and used by the turner.

Rottlera tinctoria. *Rox. Dyer's Rottlera.*

Linn. Syst. Diœcia Polyandria.

SENDREE.

Vernacular. See "Drugs" and "Dyes."

Habitat. Assam, Circars, Travancore.

Remarks. Found both inland and on coast. The wood is useful as it is not readily attacked by worms. *Buxus balearica*, produces the BOX-WOOD of Turkey, and *Oldfieldia africana*, AFRICAN OAK, or AFRICAN TEAK. The KOKRA-WOOD of India is yielded by *Lepidostachys roxburghii*, N. O. 196, Scepaceæ.

N. O. 200. ARTOCARPACEÆ. *ARTOCARPADS.*

Artocarpus hirsuta. *Lam.*

Linn. Syst. Monœcia Monandria.

ANGELI.

Vernacular. *Ran-phunnus*, By. *Ayenee*, *Ansjeli*, Mal. *Angeli*, Tam.

Habitat. Malabar.

Remarks. Found in Punt Suchew's country, and in the forests of Malabar and Travancore. The wood is excellent for house and ship-building, and has lately been brought prominently to notice by Dr. Cleghorn.

Artocarpus integrifolia. *W. Jaca.*

Linn. Syst. Monœcia Monandria.

JACKWOOD. PHUNNUS.

Vernacular. See "Fruits and Vegetables."

Habitat. East Indies.

Remarks. Very common in the coast forests. The wood is excellent, resembling MAHOGANY as it ages, and was used in Bombay for furniture until superseded by BLACKWOOD. *Piratinera guianensis* yields the SNAKE-WOOD or LETTER-WOOD of South America.

The different kinds of OAK-WOOD and BIRCH, and *Lithocarpus javensis*, Blume, the *Passam-batu* (Stone-oak) of Java, belong to N. O. 212. The Australian woods,—BEEF-WOOD, BOTANY BAY OAK, HE-OAK, and SHE-OAK, are produced by different species of *Casuarina*, N. O. 213. *C. equisetifolia*, the source of HE-OAK is now very common in Bombay. WALNUT is produced by *Juglans regia*, N. O. 215, an order yielding also HICKORY-WOOD, and to which *Engelhartia spicata* of Java belongs, a tree 200 feet high with a heavy, hard-grained wood. N. O. 220, Coniferæ produces the various kinds of DEAL, and CEDAR from *Cedrus Libani*, RED or PENCIL CEDAR from *Juniperus bermundiana*, and VIRGINIAN RED CEDAR from *J. virginiana* (the CEDAR of Jamaica and Honduras belongs to N. O. 52. *v. supra*) : and NEW ZEALAND, or COWDIE PINE, from *Dammara australis*. The HUON PINE of Australia is produced by *Dacrydium franklinii*, N. O. 221. Taxaceæ. *Dacrydium taxifolium* (*Kakateroo*) and *Podocarpus Totarra* furnish valuable timber in New Zealand.

N. O. 251. PALMÆ. *PALMS.*

Borassus flabelliformis. *W. Fan-leaved Borassus. Palmyra.*

Linn. Syst. Diœcia Hexandria.

TAR.

Vernacular. See "Fruits and Vegetables."

Habitat. East Indies.

Remarks. Found along the coast, and used for building.

Caryota urens. *W. Torn-leaved Caryota.*

Linn. Syst. Monœcia Polyandria.

MAHR.

Vernacular. *Bherlee-Mahr*, By. *Kitul*, Cey.

Habitat. East Indies.

Remarks. Found along the Ghâts, and used for water conduits.

Cocos nucifera. *W. Common Cocoanut Tree.*

Linn. Syst. Monœcia Hexandria.

PALMYRA-WOOD. PORCUPINE-WOOD.

Vernacular. See "Fruits and Vegetables."

Habitat. East Indies, possibly Central America.

Remarks. Found on the coast and inland, and used for water conduits. PALMYRA, or PORCUPINE-WOOD, although chiefly produced by *C. nucifera*, is obtained also from other Palms. The COCOS, or KOKRA-WOOD of the West Indies, is not a Palm-wood, nor is the tree which produces it known.

CSL

Phœnix sylvestris. *Rox.* *Wood Date Palm.*

Linn. Syst. Diœcia Triandria.

SINDEE.

Vernacular. See "Narcotics."

Habitat. East Indies.

Remarks. Found inland and on the coast, and used for water channels.

N. O. 266. GRAMINEÆ. *GRASSES.*

Bambusa arundinacea. *Schreb.* *Common Bamboo Cane.*

Linn. Syst. Hexandria Monogynia.

BAMBOO. MANDGAY.

Vernacular. See "Drugs."

Habitat. India.

Remarks. Dalzell gives three other species, common in Bombay :—

B. stricta. *Rox.* BAS. OODHA. Used for boar-spears.

B. vulgaris. *Schreb.* KULLUCK. BAMBOO.

B. arundo. *Klein,* CHIWAREE, the source of "Mahableshwur sticks."

The uses of the Bamboo are almost infinite.

The Government of Bombay has decreed the *Bamboos* to be Palms. (*Vide* "Second English Book for Pupils in the Government Schools. Published for the Educational Department." Fourth Edition 1860, page 29, Reading Lesson XIX.--Palms (No. 2.)) But as the Bombay Presidency is in Botany the Kingdom of Dalzell, and not the Kingdom of the Governor in Council, I have kept the *Common Bamboo Cane* under Grasses and not transferred it to Palms. I have heard it said, or seen it stated, that elsewhere in the Government Series the *Bamboo* and *Peepul* are confounded together, but the Educational Department of the Government of Bombay can hardly have gone so far as that in bamboozling the people.

In the above list of local woods, I have restricted myself to those enumerated by Dr. Gibson, as the best practical authority on the subject. It would have been easy to have given a much more copious list, but the effect would be to cause disappointment to practical men. Woods, like fibres, are required in large quantities, and of undoubted quality, as regards either their fineness, lightness, or most commonly strength : and it would be worse than useless, therefore, to refer to kinds which are either worthless, or mere curiosities.

DIVISION I.

Class 4. J.

MISCELLANEOUS.

N. O. 11. NELUMBIACEÆ.

Nelumbium speciosum. *Will.* *Egyptian Lotus.*

Linn. Syst. Polyandria Polygynia.

Vernacular. See "Drugs."

Habitat. India, Persia, Ceylon, Siam, Cochin-China, the Philippines, and Moluccas (excepting Amboyna, China, and Japan).

Remarks. The Mystic Lotus, the spiral vessels of *Nelumbium Centeum* are used as wicks in India in the temples.

N. O. 33. TILIACEÆ. *LINDENBLOOMS.*

Elæocarpus Ganitrus. *Rox.*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Roodraksha,* Sans. Dec. *Roodrakya,* Beng.

Habitat. East Indies.

Remarks. Rare in Western India; and the stone, worn as necklaces by the Sheevas and fakirs, is imported in large quantities from Singapore. The Vishnoovas wear necklaces of *Toolsie* (*Ocymum sanctum,* W. N. O. 161), root or stalks.

N. O. 48. SAPINDACEÆ. *SOAPWORTS.*

Sapindus emarginatus. *Vahl.* *Emarginated Soap-berry.*

Linn. Syst. Octandria Monogynia.

Vernacular. See "Drugs."

Habitat. India.

Remarks. The fruit under the name of *Rita* is used for washing the hair, the pulp round the seed being saponaceous, whence its generic name, quasi *sapo indicus*. *S. Saponaria*, W. *Common Soap-berry* (*Bacca Bermudensis*) of the West Indies is better known in Europe, where the seeds were formerly imported for waistcoat buttons. In America the fruit is used for washing, as is the fruit of other species of this genus elsewhere. There are several other saponaceous plants. In Jamaica soap is prepared from the leaves of *Agave vivipera*, and in Mexico the roots of *Agave saponaria* are used for soap, N. O. 242; the fruit of *Bromelia Penguin*, N. O. 241, is also used for washing in the West Indies; and the bark of *Quillaja Saponaria*, N. O. 76, in Chili. *Quillaja brasilensis* has the same property. In India the pods of *Acacia concinna*, De C. *Sicakai*, N. O. 74, are also commonly used, and in Europe different species of *Gypsophila* and *Saponaria*, N. O. 28. Caryophyllaceæ. I have also in the Museum a saponaceous leguminous fruit from China, which as yet I have not been able to identify. In Japan a mucilage is prepared from the branches of *Kadsura japonica* by boiling them, and this is used by the women "to cleanse their hair of the pomatum they so largely employ." (Lindley.) Under N. O. 22. Polygalaceæ the root bark of *Monnina polystachya* and *Polygala salicifolia* pounded and made into balls are used in Peru for soap. The women of Egypt wash their hair with the leaves of *Halophyllum tuberculatum*, N. O. 63. Rutaceæ. In India besides the *Soap-berry*, and the pod of *Acacia concinna (vide infra)*, the seeds of *Entada Pursætha*, No. 72 (*vide infra*), are also sometimes used for washing the hair. The juice of the leaves of *Hernandia sonora*, N. O. 185, applied to the hair removes it without pain or injury of any kind. The ancients were not familiar with the use of soap except as a sort of pomade, and used instead a number of substances from the mineral, vegetable, and even animal kingdom. The best of these substitutes among minerals were *Nitron* or *Litron*, and *Konia*; the former probably carbonate of soda, and the latter a lye of potash; and amongst vegetables the plant called *στρουθιὸν* by the Greeks, and *Radicula*, and *Herba lanaria*, by the Romans, and identified by some with the *Gypsophila Struthium* of botanists, and by others with their *Saponaria officinalis*, both Cloveworts. Less legitimate, but probably more used, substitutes were ointments and other preparations of all kinds of odoriferous gums and resins, roots, woods, and herbs. These were frequently carried about the person in little caskets called alabastra from their being often made of alabaster. In the passages of the Bible:—"The Lord will take away the tablets, and it shall come to pass that instead of a sweet smell there shall be a stink;" and,—"All thy garments smell of myrrh, aloes, and cassia, out of the ivory palaces, whereby they have made thee glad:"—the words "tablets" and "ivory palaces" refer to perfume cases. The word "soap" in the English versions of the Bible is the equivalent of the Hebrew word "*borith*," which is supposed to refer to the same plant as the *στρυθιὸν* of the Greeks, Pliny uses the very word *sapo* for soap, and a soapboiler's shop, with the soap still fresh, has been discovered amongst the excavations of Pompeii.

N. O. 70. RHAMNACEÆ. *RHAMNADS.*

Zizyphus xylopyra. *W.*

Linn. Syst. Pentandria Monogynia.

Vernacular. *Sootee*, By.

Habitat. India.

Remarks. The wood is used for torches, as is also that of *Ixora parviflora*, Vahl. N. O. 115. Cinchonaceæ. The fruit is also used for blackening leather.

N. O. 74. LEGUMINOSÆ. *LEGUMINOUS PLANTS.*

Acacia concinna. *De C.* See "N. O. 48."

Remarks. Used like soap-berry.

Abrus precatorius. *Linn.* See "Drugs."

Adenanthera pavonina. *W.* See "Dyes.

Remarks. The seeds of both these plants, and particularly those of the first are used as jewellers' weights. The seeds of the first (*Gunja*, Sans. *Goonch*, By.) weigh on an average gr. $1\frac{5}{10}$, apothecary's weight. In Hindoo medical books the seeds are called *ratticà*, and ten *rattícà* are said to equal one *màshaca*, and eight *máshaca* to one *tolà*. See *Erythrina indica*, under "Woods." The weight *Masha* is derived from the seed of *Phaseolus radiatus*. See "Pulse."

Bauhinia parviflora. *Vahl.* *Small-flowered Mountain Ebony.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Vana-raja*, Sans. *Apta*, *Wuna-raja*, By. *Arekamarum*, Tam. *Arræ*, Tel.

Habitat. India.

Remarks. The natives use the leaves for making their *Bheeries*, or cigars. They also worship the tree at the Dussera festival. Other common trees worshipped by the natives are :—

Acacia Catechu, *Khair*, N. O. 74, at the Dussera.

Prosopis spicigera, *Shemee*, N. O. 74, at the Dussera.

Ocymum sanctum, *Toolsee*, N. O. 161, daily.

Phyllanthus Emblica, *Aonla*, N. O. 195, on the 12th Khastik.

Urostigma bengalense, *Wur*, N. O. 200, on the 15th Jest.

Urostigma religiosum, *Peepul*, N. O. 200, on the 30th of each month, if it falls on a Monday.

Musa paradisiaca, *Kayla*, N. O. 235, on the 3rd Shrawan.

MISCELLANEOUS.

The common Sacrificial wood of the Hindoos of this Government are:—

Butea frondosa, Pulas, N. O. 74.
Prosopis spicigera, Shemee, N. O. 74.
Calotropis gigantea, Rooi, N. O. 140.
Achyranthes aspera ? Agareh, N. O. 170.
Ficus glomerata, Oombar, N. O. 200.
Urostigma bengalense, Wur, N. O. 200.
Urostigma religiosum, Peepul, N. O. 200.
Cynodon Dactylon, Dub, N. O. 266.
Poa cynosuroides, Koosh, N. O. 266.

The five leaves (*Punchpallow*) used by the Hindoos, of this side of India, as platters, and for pouring libations are:—

Mangifera indica, Amb, N. O. 71.
Syzygium Jambolanum, Jambool, N. O. 85.
Urostigma bengalense, Wur, N. O. 200.
Urostigma cordifolium, Paeer, N. O. 200.
Urostigma religiosum, Peepul, N. O. 200.

The twigs of the *Agareh* are also used by the natives as tooth-brushes, and any plant is lawful for this purpose the sap of which is colourless. This information I have not obtained from books, but from my friend Rao Sahib Wisvanath Narayen Mandlik. The sacred flowers of the Hindoos are—

Nelumbium speciosum. Kamala sacred to Lukshmi.
Ærgle Marmelos, Bael. The leaf being the symbol of the Hindoo triad.

Mesua ferrea, Nagkeshur,	The five flowers which tip the five arrows of Kamadeva, the Indian cupid.
Pandanus odoratissimus, Keura,	
Mangifera indica, Amb,	
Michelia Champaca,	
Pavonia adorata, Bala,	
Cratæva religiosa, Bel,	Sacred to Siva.
Jonesia Asoca,	
Cæsalpinia pulcherrima,	
Jasminum undulatum,	Sacred to Siva and Vishnoo.
Guettardia speciosa,	
Calophyllum speciosum,	
Origanum Marjorana, Murwa,	
Ixora Bandhuca,	

Artemisia austriaca,
Nerium adorum, Kunair, } Sacred to Siva and Vishnoo.
Chrysanthemum indicum,
Ocymum sanctum, sacred to Vishnoo.

Cajanus indicus. *Spreng.* *Two-coloured Pigeon Pea.*

Linn. Syst. Diadelphia Decandria.

Vernacular. See "Pulse."

Habitat. East Indies.

Remarks. This is the *Toor* of the Deccan, and *Doll-bush* of Anglo-Indians, from which gunpowder is prepared at the Government works at Mazagon. Some years since Dr. Giraud recommended the bark being removed before the stalks were converted into charcoal, and hence the superiority of the Bombay gunpowder, as compared with that of Bengal, and the great saving effected in the ultimate cost. In France gunpowder is made from *Enonymus europæus*, and in Abyssinia from *Celastrus serratus*, N. O. 68, Celastraceæ.

Entada Pursætha. *De C.*

Linn. Syst. Polyandria Monogynia.

Vernacular. *Gilla*, Beng. *Gardul*, By. *Gila-tiga*, Tel. *Maha-puswœla*, Cey.

Habitat. Malabar. Moluccas. Mauritius.

Remarks. The seeds are used by Dhobies for crimping. In the West Indies the seeds of allied species are made into snuff-boxes, and the pods are used by the police, &c. They are often floated across to the western shores of Spain, France, Ireland, and Scotland, and are thus said to have afforded Columbus an argument for the existence of America.

Prosopis spicigera. *Linn.* *Eatable-podded Prosopis.*

Linn. Syst. Decandria Monogynia.

Vernacular. *Shemee, Sumree, Sounder*, By. *Shumi*, Tel.

Habitat. East Indies. Persia.

Remarks. Very common in Guzerat. It is one of the trees to which the Dussera processions proceed, and the heart-wood in Sindh is used for weavers' shuttles. *Æschynomene aspera*, W. is the *Sola* of Bengal, with which *Sola* (often called *Solar* by the ignorant) *topees* are made. Are the beautiful pith models of Southern India made from this, or from *Scævola Taccada*, N. O. 122?

CSL

N. O. 78. LYTHRACEÆ. *LOOSESTRIFES.*

Lawsonia alba. *Lam.* *Henna Plant.*

Linn. Syst. Octandria Monogynia.

Vernacular. See "Dyes.

Habitat. The East Indies. Northern Africa. Cyprus.

Remarks. See "Dyes." Henna is prepared from the leaves of the *Mayndie.*

N. O. 85. MYRTACEÆ. *MYRTLEBLOOMS.*

Careya arborea. *Rox.*

Linn. Syst. Monadelphia Polyandria.

Vernacular. See "Drugs."

Habitat. Kandeish and the Concans. Malabar.

Remarks. The bark of the *Wakoomba* furnishes slow matches for matchlocks.

N. O. 115. CINCHONACEÆ. *CINCHONADS.*

Ixora parviflora. *Vahl.* See "N. O. 70."

N. O. 141. APOCYNACEÆ. *DOGBANES.*

Alstonia scholaris. *Don.*

Linn. Syst. Pentandria Monogynia.

Vernacular. See "Drugs."

Habitat. South Concan, Travancore, Coromandel, Assam.

Remarks. The *pats* used by Native school-children are made of the wood of this tree, whence its specific name.

N. O. 142. LOGANICEÆ. *LOGANIADS.*

Strychnos potatorum. *Rox.*

Linn. Syst. Pentandria Monogynia.

Vernacular. See "Drugs."

Remarks. The seed (Clearing-nut) is used to clarify muddy water.

N. O. 157. SOLANACEÆ. *NIGHTSHADES.*

Puneeria coagulans. *Stocks.*

Linn. Syst. Diœcia Pentandria.

Vernacular. See "Drugs."

Habitat. Sind, Beloochistan.

Remarks. The berry is used in Sindh to coagulate milk, as that of *S. sanctum* is in Arabia. So the Laplanders curdle milk by pouring it while fresh and warm on the leaves of *Penguicula vulgaris*, N. O. 165.

N. O. 195. EUPHORBIACEÆ. *SPURGEWORTS.*

Excœcaria Agallocha. *W.*

Linn. Syst. Diœcia Monadelphia.

Vernacular. *Gwa*, Hind. *Telakeeriya*, Cey.

Habitat. India, Ceylon.

Remarks. Long supposed to be the source of Aloes-wood, or Eagle-wood, the Aloes of the Old and New Testament, which, however, is produced by plants of the N. Os. 74 and 186 (Aquilariaceæ). The better kind of Aloes-wood is produced by the leguminous plant *Alœxylon Agallochum*, Lour. a native of Cochin-China, and the inferior kind by *Aquilaria Agallocha*, a native of India beyond the Ganges, the Malaya name of which, *Agila*, is the origin of most of the synonymes of this precious incense as *Agaru*, Sans. *Aggar*, Hind. *Pao-d'agila*, Portuguese, and the common names Eagle-wood, Aloes-wood, Agallochum, Lignum aquilæ, Agalluge, &c. The Hebrew name is Ahalim, or Ahaloth. Aloes-wood is also called Calambac, from *Kalambak*, the Malayan for the wood of *Aloexylon Agallochum*. The designation should properly therefore be restricted to the superior article. It is remarkable that two trees belonging to widely-separated orders should produce an identical wood of such extraordinary quality. The acrid smoke from the burning wood of *Excæcoria Agallocha* is said in the Fiji Islands to be a specific in leprosy. This treatment causes the most fearful torture—it makes me shudder as I think of Seeman's terrible description of it—but it proves successful it would seem. Poor race of man.

N. O. 266. GRAMINEÆ. *GRASSES.*

Andropogon Calamus aromaticus. *Royle.*

Linn. Syst. Triandria Digynia.

Vernacular. *Koobell*, Hind. *Roosa*, *Vulg.*

Habitat. India.

Remarks. Identified by Royle with the sweet-cane and sweet Calamus of Scripture,—*Kaneh bosem* ("reed of fragrance") Ex. xxx. 23; *Kaneh hattob* ("good reed") Jer. vi. 20,—and κάλαμος ἀρωματικὸς of Dioscorides. *Roosa-ke-tel,* Grass-oil, or Ginger-grass oil, is prepared from it. The *Calamus aromaticus* of the older pharmacologists is the root of *Acorus Calamus.* N. O. 258.

Andropogon citratum. *De C. Lemon-grass.*

Linn. Syst. Triandria Digynia.

Vernacular. *Bhustrina, Malatrinukung,* Sans. *Gundaha-bena,* Beng. *Ghunda-bela, Gundbel,* Hind. *Sirek,* Mal. *Camachie-pilloo, Wassina-pilloo,* Tam. *Kamachie-kussoo,* Tel. *Pengiri-mana,* Cey.

Habitat. India.

Remarks. This is not the σχοῖνος εὔοσμος of Dioscorides. See "*A. Schœnanthus,* Linn." *infra.* Lemon-grass Oil, Citronelle-oil, or Oil of Verbena, is certainly prepared from it.

Andropogon Iwarancusa. *Rox.*

Linn. Syst. Triandria Digynia.

Vernacular. *Iwarankusha, Kurankusha, Ibharankusha,* Beng. Hind.

Habitat. The skirts of the Himalayas.

Remarks. The root of this plant was long considered the Spikenard (See "Drugs," N. O. 117) of the ancients, an opinion conclusively refuted by Sir W. Jones, As. Res. iv. 109.

Andropogon muricatus. *Retz.*

Linn. Syst. Triandria Digynia.

Vernacular. *Virana, Viratura,* Sans. *Khor, Kuskus,* Beng. *Bena,* Beng. *Useer, Bala,* Hind. *Ramichum,* Mal. *Valik, Vittie-vayr,* Tam. *Kassavoo, Cooroo-vayroo,* Tel.

Habitat. India.

Remarks. Used for Cuscus tattys.

Andropogon Schœnanthus. *Linn.*

Linn. Syst. Triandria Digynia.

Vernacular. *Siree,* Amboyna.

Habitat. Amboyna.

GSL

Remarks. Under this name, three species have apparently been confounded, viz. 1st, the *Siree* of Amboyna; 2nd, *Lemon-grass, supra;* and 3rd the *Camel's Hay* of Arabia, the *Juncus odoratus* or *Fœnum camelorum* of old writers, and it may be presumed the σχοῖνος εὔοσμος of Dioscorides, as he states that the best came from Nabatæa; although some have identified σχοῖνος with *Lemon-grass.* The Arabs call *Camel's Hay Helsi-meccavi,* and *Idhir-mecchi.* (Hasselquist). Also *Izkeer.*

Cynodon Dactylon. *Pers.* *Creeping Cynodon.*

Linn. Syst. Triandria Digynia.

Vernacular. See "Fodder."

Habitat. Europe, India.

Remarks. This is the *Durva* of the Vedas, commonly called *Dub;* and the ἄγρωστις of the Greeks. See "Fodder.

Poa cynosuroides. *Retz.*

Linn. Syst. Triandria Digynia.

Vernacular. *Cusha, Darbha, Pavitra, Cusa,* Sans. *Koosha,* Beng. Hind. *Dub*? Hind. *Koosh,* By.

Habitat. East and West Indies. Egypt.

Remarks. Sir W. Jones states that every law-book, and almost every poem in Sanscrit, contains frequent allusions to the holiness of this plant, and quotes from the fourth Veda the following address to it "at the end of a terrible incantation":—

——— "Thee, O *Darbha,* the learned proclaim a divinity not subject to age or death; thee they call the armour of INDRA, the preserver of regions, the destroyer of enemies; a gem that gives increase to the field. At the time when the ocean resounded, the clouds murmured, and lightnings flashed, then was *Darbha* produced, pure as a drop of fine gold."

From Dr. Haug's recent work on the Zend-Avesta, and religion of the Parsees, it appears that the Parsees give the name of *Kusha* to the *Berecma,* or bundle of twigs, required by their priests when reciting Izeschne. These twigs are of *Udumbara* (*Ficus glomerata Oomber*).

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ERRATA.

Page 94, line 20, *for* "*Andropongo*" *read* "*Andropogon.*"
,, 135, ,, 1, *for* "ἐυ" *read* "ἐν."
,, 135, ,, 33, *for* "mythic" *read* "mystic."
,, 174, ,, 28, *for* "*Calotiopis*" *read* "*Calotropis.*"
,, 215, ,, 10, *for* "was" *read* "is."
,, 218, ,, 15, *add* "the" *between* "as" and "piety."
,, 341, ,, 12, *for* "**Antiris**" *read* "**Antiaris.**"
,, 347, ,, 24, *for* "**Sleichera**" *read* "**Schleichera.**"
,, 367, ,, 4, *for* "*Sootee*" *read* "*Gootee.*"